*See General Review Section Beginning Page 38*


# Industrial FINISHING

Reg. U. S. Pat. Office

**Devoted to Product Finishing in the Factory**

Vol. XV, No. 3 JANUARY, 1939 $2.00 a Year


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**DE VILBISS SPRAY SYSTEMS**

# *Letters from Readers*

## OF INDUSTRIAL FINISHING

**These letters (and many others) were answered recently by the editorial department, but are published here to reveal certain interesting trends of desire and activity in the industry, and to encourage additional inquiries, comments and suggestions. Further information about any of them can be obtained by writing this office.—Editor.**

### Baking Lamps

In the December issue of INDUSTRIAL FINISHING — in that division headed "Letters from Readers"—we notice an inquiry relative to the use of lamps as applied to baking enamels. We, too, are interested in this phase of baking enamels, and should appreciate your furnishing us with information as to date and page numbers of the article in which you referred to the process. Also, we should appreciate receiving any other information you may have on the use of infra-red ray lamps in baking enamels.—E. Electric Appliance Co.

---

Articles on this subject appeared in March 1938 issue of INDUSTRIAL FINISHING, under the titles "Finish on Zephyr Cars" and "Spot Baking a Repair in Synthetic Finish."—ED.

---

### Non-Tarnish Finish For Small Parts

We manufacture some articles made of sheet-steel auto-body stock which are formed into various shapes, the longest of which is about 7-in. We have been applying to these parts an acid copper finish which is obtained by dipping the parts in a solution of water, blue vitriol and sulphuric acid, followed by rinsing and drying. This finish is in no way rust-proof and quickly tarnishes. We are trying to find some inexpensive material that will air-dry quickly and can be applied by dipping these parts in bulk and scattering them over some sort of drain rack, possibly a screen, for drying. We do not have a centrifugal machine for applying this material, so we must resort to other means of handling the parts. The finish we desire should be tough, not easily scratched, and in appearance should look like what is commonly known as Tuscan or Arcadian bronze.

Can you direct us to one or more manufacturers of material that will answer our requirements? — W. K. Mfg. Co. (Household & Farm Products).

---

### Rubbing Machine

I wonder if it is possible at this late date to locate the manufacturers of stationary rubbing machines, as described on page 7 of March 1932 issue of INDUSTRIAL FINISHING, by P. C. Bardin; also a short statement in May 1931 issue of the same magazine, signed J. E. H., on page 18?—F. W. I. (Plant Superintendent).

---

More evidence of INDUSTRIAL FINISHING's value, even when copies are 3 or 9 years old. The information asked for has been supplied.—ED.

---

### Want to Buy Flocks

On page 10 of your November issue, we notice an interesting article entitled "How to Finish with Flocks." We believe we might be able to use

# *Count 'em* 1-2-3-4

The latest—most attractive line of new and different finishes for such effects as

SWEDISH MODERN
DISTRESS
NU DARK
MELO-TONE
GEORGIAN
PATINA
etc.

**DU BAR BLEACH**—The closest to perfection and the most fool proof. If you have bleaching problems we GUARANTEE DuBar will solve them.

**NUOIL FILLERS**—BRAND NEW! Distinctly better—easier to wipe and real time and money savers.

**WATEROIL STAINS**—ALONE in their class. DO NOT PRECIPITATE OR CHANGE WITH AGE. Fast to light, non-bleeding, quick drying and non-grain-raising.

**RUB-LESS LACQUERS (Licensed)**—Guaranteed better, smoother flow. Require less rubbing. Practically water white—extremely resistant to alcohol and checking.

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**PERMACEL** THE PAPER MASKING TAPE
**JONFLEX** FINE CLOTH MASKING TAPE
**INDUSTRIAL** COARSE CLOTH MASKING TAPE
**UTILITAPE** WATERPROOF CLOTH TAPE IN RANGE OF COLORS
ALL TAPES ¼" TO 36" WIDE IN 60-YD. ROLLS

SAMPLES ON REQUEST

**INDUSTRIAL TAPE CORPORATION**
NEW BRUNSWICK, N. J.

some of this material and desire further information. Would you kindly send us the address of the manufacturer or forward this letter to him.—B. B. Co. (Basket Makers for over 50 years).

---

From time to time, in your publication INDUSTRIAL FINISHING, we have noticed articles on spraying flocks, on which we, at the present time, would like to be put in contact with manufacturers.

We would greatly appreciate it if you could look through your file and advise us which manufacturers have offered this item, so that we may communicate with them. Kindly note that it would have to be a manufacturer, for this inquiry is from our Australian office, which means we would have to obtain the lowest export prices.—D. M. (Exporter, Importer).

---

See our note under "Wood Novelties" letter.—ED.

---

## Wood Novelties

In your November issue, on page 11, we have noticed several illustrations of novelties with the story by H. H. Menefee, which novelties were loaned for photographing through the courtesy of Claremont Waste Mfg. Co.

We are interested in wood novelties of all kinds and would like to add the name of the Claremont Waste Mfg. Co. to our list of novelty manufacturers, contacting them, if possible, in the interest of our mahogany publicity.

If you will be kind enough to let us have their correct address so that we may get in touch with them, we shall greatly appreciate it. Please understand that we have nothing to sell and wish only to get in touch with these people so as to learn if they may have novelties in mahogany, or perhaps make up some for us, which we might have occasion to promote to our mutual interest.—Mahogany Assn. Inc., Chicago, Ill.

---

Claremont Waste Mfg. Co., Claremont, N. H., does not manufacture wood novelties, but manufactures and sells flock (see their ad in this issue) which is sprayed on some novelties to give them a suede-like or velvet-type of finish.—ED.

---

## Porcelain Repair

We note in a recent edition of INDUSTRIAL FINISHING that you may be able to give us information re-

QUART SAMPLES FREE

• NEW!!

NOROY

• ECONOMY LINE

• S-12,001 SANDING SEALER

18% Solids at the gun.

• W-10,000 GLOSS WOOD LACQUER

21% Solids at the gun.

• F-16,000 FLAT WOOD LACQUER

21% Solids at the gun.

• W-1035 NON-RUBBING GLOSS WOOD LACQUER

32% Solids at the gun.

*Complete Economy Line moderately priced, delivered ready to spray.*

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*More*

**BUSINESS**

***in* 1939**

More business will be available in 1939 to those who improve the styling of their products.

**FLOCKING**

has taken the country by storm in the past year among makers of signs, showcards—window and counter displays and backgrounds—wood, paper, glass and metal toys and parts, radio grills and loud speakers and countless other items.

**COTTON, WOOL OR RAYON FLOCKS**

applied by spray gun lend a finishing touch that makes things **sell.** CLAREMONT FLOCKS in white or colors, are conceded to be the best available by all users. Write for samples and prices.

**CLAREMONT WASTE MFG. CO.**

CLAREMONT, N. H.

***The country's leading manufacturers***

garding porcelain repair materials. Will you kindly tell us where we may be able to obtain such material?—L. H. Co. (Chairs).

The Universal Shellac Stick Co., whose advertisement appears in this issue, has a product for this purpose.—ED.

## Gold Color Finish

We are assiduous readers of your publication and notice that in the advertisements several concerns are represented that manufacture and sell varnishes, lacquers and other finishing materials. It is our intention to get in touch with some of these concerns, especially those in position to supply a gold color finish for metal lamps. Please advise us . . . . —L. Q., Havana, Cuba.

## Furnace Jacket Finish

We have been quite interested in some of the articles in INDUSTRIAL FINISHING, relating to the finishing of cabinets, such as furnace jackets. Can you let us know if there is such an article as a summary of ornamental finishes adaptable to furnace jackets or jackets of that description?—M. O. R. Co. (Air Conditioning; Oil Burners).

## Polishing Compound

In the November issue of INDUSTRIAL FINISHING, on page 54, there is an inquiry by the G. F. Co. (caskets) regarding a polishing product. We would appreciate your giving us the name and address of this casket manufacturer, as we are selling our compounds to various casket makers all over the country and perhaps we can be of service to this concern.—Minnesota Mining & Mfg. Co.

## Masking Tape

We were interested in an article in the October issue of INDUSTRIAL FINISHING regarding the use of masking tape in the painting of airplanes. We should be interested to contact American suppliers of suitable types of tape for this purpose, and should be glad if you would give us names of the manufacturing concerns to whom you can recommend us in this connection.

We have noticed the advertisement

*(Continued on page 77)*

# *Finish* PLUS *Design*

*Furniture* **SELLS** *when Finish and Design*

**MAKE IT ATTRACTIVE TO THE PUBLIC**

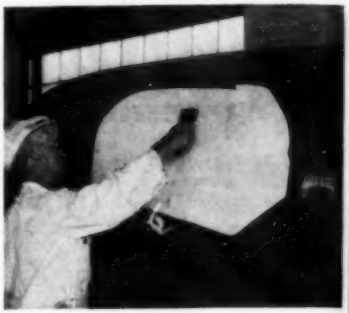
**STILLE-YOUNG LACQUERS, SEALERS, FILLERS, STAINS, ENAMELS, make the perfect FINISH—and help DESIGN because of the beautiful effects obtainable.**

**THE STILLE-YOUNG CORPORATION**

**MANUFACTURERS · CHICAGO, ILLINOIS**

# STILLE-YOUNG

*dependable* **LACQUERS**



1. Hand roll pressure is applied to the decal after it is correctly positioned.

2. Pulling off tissue paper that covers and protects the face side of the decal.

3. Washing face of decal with wet cloth; after this washing, it is allowed to dry.

# How to Prepare and Apply

ON THE SIDES of commercial cars operating in your local territory you have probably noticed and admired some of those colorful pictures of products and trademarks. Very likely these are not hand paintings, but modern decals. The decalcomania process of decoration and display offers perfect duplication of an original painting in full colors, at low cost in both material and labor.

The application of decals is quite easy and simple. Complete directions are printed on the backing paper. However, just to get into close practical touch with some of this work, your EDITOR stepped out to the paint shop of a local concern and watched the foreman demonstrate the detailed procedure. The decals that he put on at the time were realistic natural color pictures of an enlarged loaf of Bond Bread with part of the wax paper wrapper torn from the end of the loaf. One of these decals is positioned on each side of a dark green commercial car, and decal lettering is used elsewhere on the body.

These decals can be applied to oil-enameled, varnished, lacquered or synthetic finished surfaces. The surface, of course, must be clean and smooth. Steps in the process of decal preparation and application include the following:

1. The sheet of decal is spread out flat on top of a work table, the side to go against the body being placed up. A coat of clear sizing material is brushed on. The clear sizing used at the shop I visited was a clear synthetic material. Directions on the decals mention the use of a first class quick-drying rubbing varnish or special cement (furnished by the manufacturer) for enameled or painted surfaces, and a special cement for lacquered surfaces.

The sizing material is brushed on thoroughly and smoothed out,

# Decalcomanias

BY W. H. ROHR

care being taken to avoid spreading it on too thick. At the time of my visit the work was being done on a hot summer day, therefore there was no danger of the sizing becoming chilled in the open paint shop. This size was allowed to stand for about 30 minutes. The length of time to let it stand to become tacky depends upon the material used and the atmospheric conditions in the shop. The usual test is to allow it to stand until it becomes so stiffly tacky that you can spread your fingers and touch the sizing with your finger tips and almost lift up the large sheet of decal. A small sheet could be easily lifted this way. An inexperienced man would think it had stood too long—had become too nearly set to be workable, but in reality it is just right.

2. While several sheets of sized decal are becoming tacky, the operator steps over to the commercial bodies, measures the paneled space and chalkmarks center lines for the correct positioning of the decals.

3. As soon as a decal is tacky enough to apply, the workman quickly wets the area that is to receive it, using a sponge or nonlinty rag wet with clear water. This is important.

**Positioning the Decal and Pressing It into Place**

4. He picks up the decal by its upper corners, holding it so the sizing will not be disturbed at the extreme edges, and gently stretches it to take up the slack between those upper corners as he holds it poised ready to be placed against the body. He presses the upper corners lightly into place and then he applies pressure at the middle of the decal. Using a rubber squeegee (a bit of rubber about ¼x2½x3-in., with a rounded working edge) he quickly strokes the back of the decal from the center outward

to press it into position and to remove any entrapped air. Then he follows up with a small hand roller of rubber, as shown in Fig. 1.

**5.** Next he peels off the heavy backing paper. He carefully starts it at one corner and it comes off easily, all in one sheet, leaving the thin tissue paper remaining to cover the decal.

**6.** The surface of this thin paper is then rolled with a hand roller, working from the center outward, to add more pressure and to roll out any trace of wrinkles or blisters. Following this rolling, the operator thoroughly wets the tissue paper surface with clean water and then peels it off as shown in Fig. 2.

**Washing the Decal; Treatment of Blisters**

The face of the decal is now exposed. The operator promptly washes it with a water soaked soft cloth or sponge, at the same time gently pressing down any wrinkles or blisters that may be present. It is necessary to act quickly in washing the exposed surface of the decal in order that the starch between the tissue paper and the face of the decal will be removed clean before it begins to dry and present a white smeary appearance. After all of these precautions, it is possible that some very small wrinkles or blisters may still be visible, but these will disappear when the moistened decal dries. The decal will "smooth out" and become skin tight as it dries — just as wallpaper does when it is hung by an expert.

Of course, if some blisters appear and the operator is fearful that they may not level out, or that the decal may not adhere tightly to the body at these points, he can easily and safely puncture them with a pin point and press them down perfectly flat.

**7.** To remove surplus sizing material from around the edges of the decal, the directions specify that the operator carefully wash these places with a soft cloth wet with benzine or turpentine. Some operators use gasoline; others use a mixture of gasoline and water, although printed directions on the backs of decals specifically warn against the use of gasoline for this purpose. After washing the edges with benzine or gasoline, the operator promptly washes away all trace of this material with a soft cloth generously wet in clean water. Following this treatment, which requires much less time than it takes to tell it, the decal is ready to dry.

**Time for Drying; Clear Protective Coat**

The decal manufacturer's printed directions specify 24 hours of drying time before the application of clear varnish or lacquer over it, which is okay, but in many cases less time is allowed —and with safety, provided the sizing material dries rapidly and if conditions for drying are favorable.

The decal itself is porous; this helps to promote complete drying of the sizing material under it. When it is thoroughly dry the decal is given a clear protective coating—clear lacquer, clear synthetic or clear varnish. In cases where only the decal is clear coated, the clear material is carefully applied so that it covers the edges of the decal. The Bond Bread

commercial bodies to which decals illustrated in this article are applied, are given an all-over coating of clear synthetic. Previously they were color finished with a synthetic material of the same brand. Then, before the decals were applied, the body surfaces were lightly wet sanded with No. 320 wet-or-dry sandpaper, and carefully wiped clean. After the clear synthetic is sprayed on, all of the faintest traces of sanding disappear.

## Binks Mfg. Co's. Exhibit

The accompanying illustration shows the Binks Mfg. Co's. spray-equipment exhibit at the Automotive Service Industries Show, Navy Pier, Chicago, December 5 to 10. It was awarded 4th place among 385 exhibitors. In the background is an actual installation of a spray booth with Dynaprecipitor Unit including water fall, showing how the water curtain collects spray residue and fumes.

Standing in front of the spray booth, an artist painted pictures, using a regular Thor 7 gun instead of an artist's gun, showing the adaptability and ease of operation of the production gun. Pictures painted at the show have been placed in the hands of distributors for display. The Dynaprecipitor Unit was also shown at the Metals Show in Detroit during October.

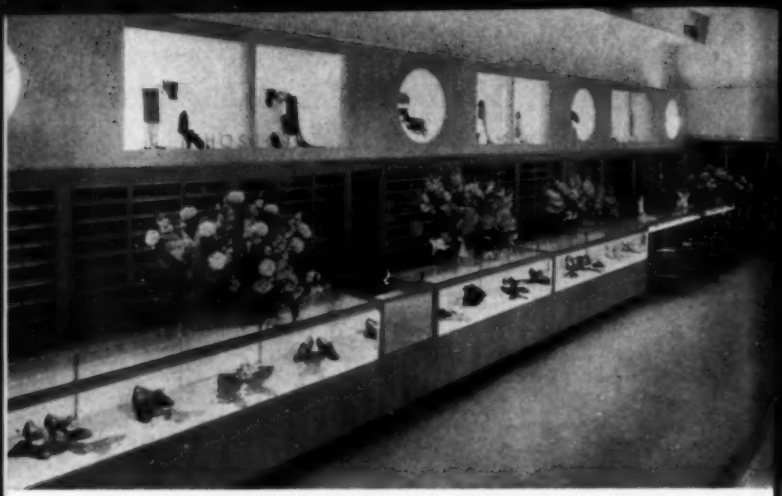
## U. S. Industrial Chemicals, Inc.

President C. S. Munson announces that since Jan. 1, 1939, all manufacturing and selling activities of the U. S. Industrial Alcohol organization, with the exception of resins, are being conducted by U. S. Industrial Chemicals, Inc., a wholly owned subsidiary, formerly known as U. S. Industrial Alcohol Sales Co., Inc. This change of name designates more accurately the present nature of the U. S. I. organization's business and reflects also its greatly widened scope in the chemical field. The same organization and plant facilities will continue to serve U. S. I.'s customers as before.

U. S. Industrial Chemicals, Inc., today manufactures widely diversified chemical products and supplies them to virtually every important industry using such chemicals in its processes. In 1917 the company entered into the manufacture of acetic acid, acetone, methyl acetate, ethylene, ether and numerous other alcohol derivatives.

The most recent major step in widening the chemical activities of U. S. I. was its entry into the resin business. Early in 1938 it acquired the business of Robert Rauh, Inc., a leading manufacturer of synthetic resins, including modified and pure phenolics, alkyds, urea-formaldehydes and ester gums. Later in the same year, U. S. I. acquired Stroock & Wittenberg Corporation, well-known importers of natural resins and distributors of synthetic resins.

U. S. Industrial Chemicals, Inc., is beginning the manufacture of cellulose acetate at a new plant constructed for this purpose at Baltimore, Md.



Front of showcase and shelving finished in avodire; niches in off-white enamel.

# Custom Wood Finish Jobs

BY F. R. BOYNTON

VAT-DYED VENEERS (by a patented process) are used for fixtures to give novel effects or to carry out some special color scheme. The veneers can be obtained in blond maple and several different shades of gray; also in several other colors such as blue, black, copper, orchid, etc.

The wood used for the veneer is generally maple, of the various grain figures and cuts, fiddleback especially giving remarkable beauty and an attractive grain. The bleached and dyed colors are all permanent, the color extending all the way through the veneer, therefore it can be belt-sanded without fear of sanding through the color and into the bare wood.

To get these effects the veneer is treated. Veneer is placed in box-like racks and lowered into a vat of bleaching solution where it is left the required number of hours. The bleach removes the mineral streaks and other discolorations in general. These bleached veneers can be used for blond wood without further treatment.

Veneers to be dyed are allowed to drain and air-dry. They are then moved by an overhead trolley and lowered into a vat containing dye of the desired color. When the color has penetrated through the veneer, the rack is removed and the veneers are left to drain and air dry. The veneers are then run through a drying ma-

Panel work and trim finished in natural walnut; walls are painted in a light color.

# on Modern Store Fixtures

Photographs of work produced by the Wiegel Cabinet Corp., Indianapolis.

PART II

chine and cut into the proper lengths.

Depth of color and clear tones are produced by this process. The color is permanent. The only discolorations that may occur will come from the coatings used in finishing. End wood that is exposed to rubbing oil should be coated; otherwise, oil will soak into the softwood core and discolor the veneer from the under side.

The use of water white coatings is imperative to insure against any discoloration. A filler can be used to advantage, but only if a bleached oil is used. If the wood is not filled, two coats of sealer (sanded between coats) are necessary, followed by two or three coats of lacquer, rubbed down to a smooth surface. This will produce an excellent finish.

**Lacquer Enamel Finish**

Lacquer enamel or colored lacquer is used extensively for some departments. Niches, pylon interiors and other display spaces are often finished in the pastel tints. The interiors of fitting rooms are done in combination; generally three or four colors are used. Starting in with a No. 1 color, the rooms are finished consecutively, alternating each room until the end is reached. Each color may have two or three trim colors.

Masonite is frequently used in place of veneered wood panels.

Frames are made of poplar or other woods. To produce a satisfactory lacquer enamel finish, two applications of undercoat are necessary. The first coat is not sprayed on so heavily, and is sanded down thoroughly. Depressions are glazed with a mixture of plaster of Paris (1 part) and silex (2 parts). These ingredients are mixed with lacquer sealer to form a paste of knifing consistency. Also, the heavy pigment of the undercoater is good for a knifing putty. After all holes and dents are filled, the surface is inspected and the second coat is applied. This coat will need little or no sanding if the first coat has been properly treated. This coat should be inspected for defects and the surface should be opaque. Any rough places or "humps" may be smoothed out quickly by gas sanding.

Two double-head coats of lacquer enamel are applied, after which the surface should show up smooth and even. A skilled spray operator is needed for large panels. Any trimming or 2-toning is done now. Clean-cut edges add to the appearance of any job and show the colors to advantage by a sharp separation of color. Curves and delicate places have to be followed, and masking tape has to be laid with precision to produce a neat job.

Cabinets and panels are also made of birch and maple. While these woods are close grained, a filler will stop the suction, therefore fewer coats will be needed to produce a satisfactory finish. The filler may be made up in the proportion of 3-lbs. of natural filler and a quart of boiled linseed oil to a gallon of thinner, with a little drier added. One and sometimes two coats of finishing material are saved by this operation.

**Composition Materials**

Formica is a composition material often used for cosmetic departments, restaurants and cafeterias. Its surface is unusually hard and durable and will stand unlimited washing; it is also resistant to cigarette burns. Formica comes in thin sheets and is laid onto a wood core the same as veneer. It can be obtained in any color including black and white. Bright metal bands covering the joints accent modern design and show the colors to good advantage. Any scratches may be removed with oil and pumice stone.

**Bleached (Blond) Finishes**

Bleached finishes are popular for fixtures. A wash coat may or may not be applied before filling, depending upon the tint or tone that is desired. For a wash coat I prefer bleaching lacquer (this is just a cotton solution, and is colorless). I have found that the commercial bleaches work very well, especially the ones that employ commercial peroxide as the No. 2 solution. One-coat bleaches save time where the wood is selected for uniformity, but upon diversified woods a second application of bleaching solution is often necessary.

For wood that is difficult to bleach I have found that an application of 26° aqua ammonia reduced to a 50/50 solution and applied before No. 1 solution and after the No. 2 solution, accelerates the bleaching action and makes it much more effective, often eliminating a second application of bleach where the wood is stubborn. Before using any

*Now! the New, Revolutionary* **HYDRO-FOAM**

# DUST COLLECTING SYSTEM

NO PUMPS TO WEAR OUT
NO NOZZLES OR JETS
NO CLOTH SCREENS

PATENT PENDING

HERE is the answer to industry's dust collecting problems. The new Mahon HYDRO-FOAM Collector has revolutionized dust collecting principles. It has no pumps to wear out, no cloth screens to remove or replace, no nozzles or jets to get out of alignment — in fact the only moving mechanism in the entire system is the suction-exhaust fan which operates on the outlet side and handles only clean air. The Mahon HYDRO-FOAM System works on an entirely pneumatic principle. The liquid solution remains in the system and the HYDRO-FOAM eliminating process is achieved through the action of the air on the surface of the solution and in the HYDRO-FOAM chambers. The dust is removed from the air and retained in the collector in the form of a sludge. Mahon HYDRO-FOAM Collectors are manufactured in units of various capacities, and can be used singly or in multiple to meet every industrial requirement. They are economical to install and economical to operate. Let a Mahon engineer show you the many outstanding advantages of this revolutionary principle. Write today.

**THE R. C. MAHON COMPANY**

**DETROIT — — CHICAGO**

**Designers and Manufacturers of Metal Cleaning and Annealing Machines, Rust Proofing Machines, Hydro-Filter Spray Booths, Ovens of All Types, Hydro-Foam Dust Collectors and many other units of Special Industrial Equipment.**

# MAHON

bleaching solution a better result will be obtained if the surface is washed with hot water to which a little sal soda has been added. The ordinary chlorinated lime is also an effective bleach for walnut.

Bleached finishes range from the platinum to the light golden browns. The Swedish Modern on mahogany is very light and a little white pigment added to the water-white lacquer will help it to retain its color—just enough to give the lacquer a milky tint is all that is necessary. Various filler tints will produce different shades, and the finish coatings will also change the color if exposed to light. Some finishers use a glaze but this produces a muddy color and is not recommended. A clear tone is decidedly preferable. Shading and antiquing give novel effects.

**Converted Mahogany**

Sometimes in remodeling, old fixtures are worked in with the new. Mahogany panels are sometimes set into walnut frames, or new walnut pilasters and cornice of different design are added to a mahogany wall case. This presents a problem—to make the old mahogany wood match the new walnut. A satisfactory match can be made except for the grain of the wood. The proper way to do this is to remove the old finish and clean the surfaces. If the panels or other areas have been stained red, a stain remover must be applied. This removes all traces of stain without the expensive sanding operation, and leaves the surface in such condition that it will slick up easily with a few strokes of fine sandpaper.

A weak green aniline stain is applied next. This forms a foundation for the brown color. The wood is stained to match the new wood, a properly tinted filler is applied and the regular finishing schedule is carried out. When

**A modern study in rich natural finished walnut . . . paneling, showcases and shelving. The attractive wall niches and showcase interiors are enamel finished in light colors.**

this schedule has been properly followed it will be very difficult to distinguish the old wood from the new.

**Final Touch-up**

After the fixtures are finished and trimmed, they are ready for installation. Men from the finishing room are sent to repair any damage and to clean the fixtures and make them ready for use. Edges are stained, shellaced, steel-wooled and waxed. Mars and dents are built up and covered by burning in stick shellac. Scratches that are not too deep are rubbed out with oil and pumice stone. Nail holes are puttied with tinted putty.

After all touch-up and repair work has been completed the fixtures in general are cleaned. This is done with a cleaner that is prepared in the finishing room. Enameled surfaces are washed and all glass is made spotless in showcases and wall cases. After this is done the attention of the customer or architect is called to it and the job is inspected and approved. Every detail should be taken care of, especially if the job is out of town, as extra trips are expensive.

As every job is different, fixture work presents many problems, for one never knows what is coming next. It pays to keep up with the latest colors and finishing materials, for they may prove advantageous on the next order. Production problems are many, for time has to be made up that is lost in other departments . . . and many factory executives still think that miracles can be performed in the finishing room.

For the finisher who enjoys color work and a variety of finishes, this field offers many interesting problems. Something new comes up with every job.

## Los Angeles Furniture Show

A. V. MacDonald, managing director of the Los Angeles Furniture Mart, has announced that the ninth semi-annual Market Week will be held at the Los Angeles Furniture Mart, 2155 E. 7th St., Los Angeles, Calif., from Monday, January 23rd to Saturday, January 28th, inclusive. An extensive and nation-wide attendance is anticipated.

## Martin Varnish Co. Takes Over Lando Finishes, Inc.

Mr. Wells Martin, Vice President and General Manager of Martin Varnish Co. of Chicago, announces purchase of the assets and business of Lando Finishes, Inc., formerly located at 410 N. Hart St., Chicago, as of Dec. 1, 1938.

The inventory, machinery and equipment of Lando Finishes, Inc., has been moved to the Martin Varnish Co. plant at 900 W. 49th Place, Chicago, Ill.

Associated with Martin Varnish Co. as a result of the new arrangement, are the following members of the Lando Finishes, Inc. personnel:

H. C. Ludwig will be Director of Industrial Sales for Martin Varnish Co. Mr. Ludwig was associated with Martin Varnish Co. some 12 years ago in the trade sales line, and for the past 12 years he has specialized in industrial business, first as salesman and later as sales manager of leading firms in the Chicago area.

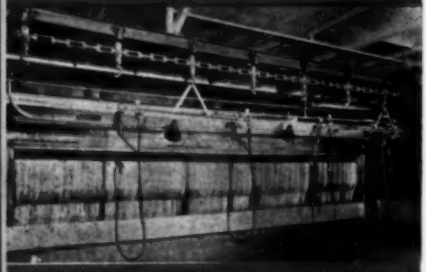
Thomas E. O'Connor will become Sales Engineer of the Industrial Division of Martin Varnish Co., in charge of the development of stains, lacquers, sealers, etc. Mr. O'Connor has been active in this type of work for the past several years, with well known firms. He has also been interested in the Federation of Production Clubs, having served as President of the Chicago Club in 1935.

Paul J. Murdoch will have charge of production in the Lacquer and Stain Division of Martin Varnish Co. As Chief Chemist of Lando Finishes, Inc., his work was of a similar nature.

With the additional personnel and equipment, Martin Varnish Co. will add to the already fine line of wood and metal finishes now offered to the trade.

SEAMAN BODY CORP., Milwaukee, Wis. View through one of two 100-ft. BINKS conveyorized production spray booths.

PERFECTION STOVE CO., Cleveland, O. BINKS operator, double vision wash spray booth and automatic reciprocating spray machine.



HAMILTON MFG. CO., Two Rivers, Wis. Close-up view of one side of spray room showing BINKS water curtain spray booth.

# SPRAY EQUI
# THAT FIT T

BRIGGS BODY CO., Detroit
Four continuous production spray booths showing B

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Binks SPRAY SYSTEMS

## BINKS MANUFACURI

3114-40 CARROLL AVENUE Telephone[illegible]aren 420[illegible]

NEW YORK
126-30 Lafayette St. Phone: Canal 6-4640 2830 E. Grand [illegible]ue: Madis[illegible]

Philadelphia—Pittsburgh—Cleveland—Milwaukee—Los Ang[illegible]

# EQUIPMENT
# IT THE JOB

BODY CO., Detroit, Michigan
ion spra showing BINKS circulating systems.

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Manu ing Company is equipped
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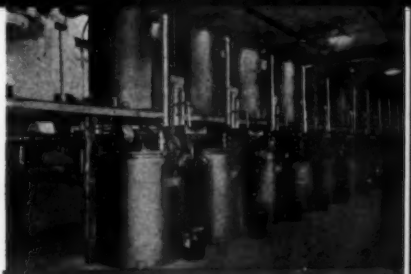
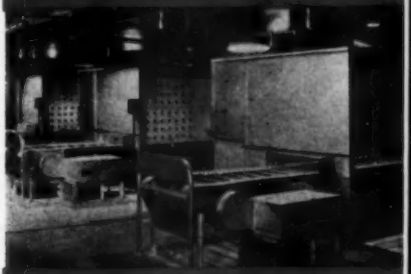
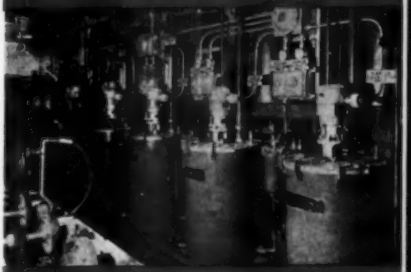


CHRYSLER CORPORATION, Dodge Div.
Detroit, Mich.
Forty 300 gallon dipping tanks—Paint mixing room, Dodge main plant.



EDISON GENERAL ELECTRIC APP. CO.,
Chicago, Illinois
Loading end of three double water wash spray booths with conveyors.



EISAMAN BODY CORP., Milwaukee, Wis.
Paint mixing room showing double tank circulating system furnishing paint to spray booths.

# TACURING COMPANY

Telephone Haymarket 4200 CHICAGO, ILLINOIS

SAN FRANCISCO

Grand Rapids: Madison 7287 923 Harrison St. Phone: Sutter 5389

Milwaukee—Los Angeles—Seattle—Windsor, Ontario, Canada

Binks SPRAY SYSTEMS

## PRODUCTION COSTS WERE CUT AFTER DISCOVERING THE CAUSES OF THESE

# Metal Finish Troubles

I BELIEVE that some manufacturers take the long way around to produce a finished product. They let too many operations creep in. The final result is, they find they cannot compete with their wide-awake competitors. In other words, they spend too much time covering up defects, and do not concentrate their efforts sufficiently in the direction of eliminating them.

Perhaps a few illustrations are in order: One manufacturer was confronted with the problem of turning out a tapered sheet steel cylinder. In rolling the metal, it took on a "stretched appearance" and to overcome this cracked appearing surface they attempted to cover it by applying a primer and surfacer, and then sanding. The result was an attractive finish but the cost was excessive. The labor cost jumped from an estimate of $0.05 to over $1,50 for finishing each cylinder.

**BY H. H. KARLE**

The company hadn't considered the necessity of having to overcome the "stretched appearance." They had figured on a one-coat job. Each cylinder they turned out resulted in a loss rather than a profit. Was it any wonder, then, that the management started to raise "Old Ned"? The time study boys were called in. They clocked until the workmen were weary. Attempts were made to motion-study the job in order to cut costs, but all to no avail.

Finally, when the engineers decided that the only thing left to do was "mortgage the old homestead" to pay off the deficit that was sure to occur at the rate they were losing the company money, someone suddenly got the idea of calling in an out-of-town expert. Strange, how an "out-of-towner" becomes an expert.

### Use Right Kind of Steel for the Job

One look at the job convinced me that a little elimination was all that was necessary. The trouble, as I saw it, was that the boys were trying to "scab over" trouble rather than eliminate it. In order to save money they were using a low grade sheet steel that proved to have a high carbon surface. When rolled, the low grade steel not only stretched but the carbon cracked and chipped off somewhat. By shifting to a better grade of sheet steel, the priming, surfacing, sanding and worry-warting were eliminated.

Moral: Get to the bottom of the trouble; then eliminate it. Don't waste so much time trying to cover it up.

Another manufacturer was bothered with attempting to cover

# But not the same Profits!

• They're identical in all but one respect. But that one difference—the difference between the Original Damaskene Wrinkle Finish, and ordinary wrinkle or smooth finish—is the difference between profit and loss! It works two ways: Through its faithful reproduction of the exquisite damask from which it was patterned, Damaskene provides eye appeal that can't be equaled.

• Then, through "engineered application" of Damaskene itself, you reduce production costs to a minimum. When Damaskene is to be applied, so much care and preparation of the metal or other surface to be finished is not needed, as when lacquer or other smooth finish is used. Damaskene Finish covers all minor imperfections in the surface. It saves you in initial metal costs.

• Faster sales . . . lowers costs! May we explain why Damaskene will benefit *you?*

THE ORIGINAL

**Damaskene**

WRINKLE FINISH

**Sold exclusively by Flood & Conklin Mfg. Co., Newark, N. J. and the following divisions: The Palmer-Price Co., The Bigelow Varnish Co., Newark Varnish Works.**
***Licensed by New Wrinkle, Inc.***

up corrosion. While in the act of explaining the best method of finishing the product, I became conscious that it was raining. It seemed to be raining on the inside of the building as well as on the outside. The steel rack was located directly under a leaky skylight. In this case the cost of production fluctuated with the weather. The only time this company could make money was during a drought. My thought, in this particular case, was: Why should so much time and money be spent trying to finish a corroded product, when the production costs could be easily cut by fixing the roof?

**Filler Cracks and Chips**

A job shop was having difficulty getting machinery filler to stick. They had tried various brands of filler with the same result. It cracked and chipped off easily. It seemed hardly probable that so many different paint concerns would be turning out a filler that was "short," so the conclusion was drawn that it must be something under the filler that was causing the trouble. The possibility of oil or grease spots was discounted because no dark or soft spots appeared around the cracks.

In stripping off the loose filler I noticed that it chipped off easily down to the primer. Another interesting fact also got my attention. Here was a machined part so smooth that it required no filler. This part had been primed and then sealed along with the filled part of the machine. The reason this unfilled part proved to be so interesting was that the sealer in this spot was turned up like a banana peel, but where the sealer had been applied over the filler, the sealer was not turned up. I decided that something must be wrong with the primer, which proved to be the case.

**Used Wrong Primer and Filler**

It seems that this company had at one time been bothered with corrosion from the inside of castings becoming loose falling into and hampering the free movement of the working parts of the various machines they built. In order to overcome this difficulty they had taken to painting the insides of their castings with red lead. The red lead, however, dried too slowly to fit in with their production schedule, so they decided to substitute red lacquer primer. The paint company who furnished the primer, having an eye for pleasing customers, produced a primer that was oil and water resistant. It proved to be satisfactory for the purpose for which it was intended, but they had not intended it to be used as a prime coat under filler. Had they suspected it would be used for any purpose other than what they had intended, they would probably have warned against its use.

Whenever and wherever it is practicable, I favor buying the complete metal finishing system from one manufacturer—from the primer to the thinner—and then consult with this concern on any particular problem that may come up. Guess work has cost some manufacturing firms thousands of dollars in the past, and it will probably cost other companies a great amount of money in the future. *It always pays to be sure the right material is being used for the purpose for which it was intended.*

Early California furniture in yucca finish, with hand applied floral decorations.

# *Live Furniture Finishes*

**Appropriate Finish**
**Stylish Design**
**Glamorous Name**

**BY L. B. WINCHESTER**

AN IMPORTANT step in the successful merchandising of Early California furniture has been the choice of finishes which blend with the furniture design and are sufficiently distinctive, though of popular trend to be of wide appeal. Names that characterize furniture finishes lend locale and tell something of the origination and background of the furniture are of inestimable value to the manufacturer.

Experience has taught furniture manufacturers that well sounding names with pleasant connotation often lay foundation for a lasting popularity for furniture in a particular finish. For instance, the manufacturer who coined the name "Old World" for his furniture has seen this name become one of the best known trade names in the industry. Likewise, other names given to finishes which have led to popularity include "Old Hardwick"; "Old English"; "Portland Place." These names have been given to furniture crafted in mahogany and

finished in enduring tones which are reminiscent of things English and of mellow antiquity. They supply sound derivations, an implication of historical value, and a romantic aura to the furniture and finishes which they characterize.

A great asset to the recently arrived Swedish Modern design has been the honey-toned finishes which have added to the simple charm of this style; their pastoral sounding names such as Wheat Straw, Harvest, Svenskt Hus, and Autumn have met with consumer approval.

Early California furniture, in its original form and finish, had a long way to travel to consumer popularity. Designers have smoothed down the lines, giving it more modern appeal, and now have traded in the sunbleached or desert tan finishes for more popular ones.

Those desert tans and grayish finishes were certainly characteristic, and copied the tones found on pieces of ancient furniture made by the Indians for the Spanish Padres at the Missions. But they were not becoming; they lacked the tendency to harmonize with other furnishings. Manufacturers were forced to realize that their Early California furniture needed mellowness of finish.

Adopting this idea, they next looked about their environment to see what was native to California that would supply the inspiration for new finishes. The desert yucca tree has a pleasing tone acquired by standing for many years under a glaring sun. Mellowed and ambered from natural stimuli the yucca seemed most fitting. Gourds also proved an inspiration, though their tone is more blonde—golden blond—than the ambered yucca.

But these two tones manufacturers adapted and their shaded effects are now aiding provincial California furniture to make a stronger appeal for acceptance. Since adopting these new finishes, manufacturers have found that consumer appeal in the East and South have greatly increased. In other words those who liked the design of California furniture are now being satisfied since they can procure the furniture in a finish which corresponds with their own conception of what this provincial furniture should look like.

The best of the provincial California furniture is made of northern hard maple, since that wood has been found to endure under many climatic vicissitudes.

By maintaining a standard finish, the manufacturers find it an aid to apply, by hand, paintings in bright tones to stretchers or to panels in the furniture. A favorite motif for this type of hand-applied art work is the Castilian rose. Fiber wrappings are an aid in preserving the pioneer feeling to the furniture, and brightly colored homespun upholstery or leather is an interesting addition to pieces of this design.

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## Claude B. Schneible Co. Appoints New Representatives

The Claude B. Schneible Co., 3951 Lawrence Ave., Chicago, Ill., manufacturers of Multi-Wash dust-collecting equipment, has made the following appointments:

O. W. Anderson, Los Angeles representative for Southern California; Robert M. Taylor Co., San Francisco, for Northern California; King Machinery Co., Cambridge, Mass., will represent Schneible in the New England States; R. F. Skarnes, Minneapolis, has taken over the North Central territory; and Guy H. Rumpf will handle the St. Louis territory.

# « Machinery Castings »

## AND THE PROBLEMS THEY PRESENT TO A FINISHER

**Practical suggestions about how to clean and smooth up castings (look for smooth patterns, too) apply suitable primer, put on and smooth out the filler, sand the surfaces, spray or dip sealer and finish coats, and what materials to use on each of the operations.**

***BY H. H. GLINKE***

SOME MANUFACTURERS of machinery have a great deal of trouble with the filler they use on rough iron castings. Either the filler chips off easily or the cost of applying it is excessive. When you ask them why they don't shift to a pyroxylin type of filler, they usually inform you that they have tried it and found it much too difficult to handle.

Really pyroxylin filler is easy to apply, once a finisher becomes educated in handling it. Smooth castings that are free from rough edges and h o l l o w s are much easier to fill, but in order to get a smooth casting it is necessary to start out with a smooth pattern. Some patternmakers pay too little attention to sanding the pattern between shellac coats. Quite often wax is used to fill cracks and nail holes, and to build up corners. Needless to say, the mold sand becomes imbedded in the wax and the result is a rough casting. Some types of colored shellac dry very tacky. These should be avoided. If the pattern is finished correctly there is no reason why the foundry should not turn out a smooth casting.

### Smooth the Rough Castings; Spray the Primer Thin

It has long been a common practice to sandblast iron castings; then grind or chip off the high places; but I find that the most satisfactory method is to grind the whole surface lightly with a portable emery wheel of fairly coarse grade. In so doing, the small metal pimples are removed; then, when you hit a high spot in the casting, it can be more easily detected. I suggest that the casting next be cleaned with a metal cleaner having phosphoric-acid base. This will not only clean the casting thoroughly but the reaction of the cleaner on the metal will cause a slight roughness that will afford better adhesion of the primer. I recommend that the primer be applied evenly with a spray gun. Caution should be taken to avoid applying the primer too heavily, or the minute scratches, pits, etc., will be completely filled up and the filler will not adhere so well. A number of primers on the market are not made to serve as an undercoating

for pyroxylin filler. These primers are all right for the purpose for which they are intended, but when used under pyroxylin filler, they provide a surface of very poor adhesion. It is for this reason that I suggest using a complete system of finishing from one company, even to the thinner.

### Where and How to Use Filler

Deep sand pits *should* be glazed, using a stiff non-shrinking pyroxylin lacquer putty filler. Shallow dents, waves and in fact all low spots should also be glazed; then the edges should be smoothed with a rubber pad. It is not necessary or advisable to knife filler over the whole surface unless the surface is unusually rough.

The next operation is to brush on one or two coats of pyroxylin filler that has been reduced to a thick brushing consistency with lacquer thinner. Each coat of filler should be smoothed out with a soft brush dipped often into a slow-drying lacquer thinner. It is necessary to fill a small area at a time, because the filler sets up quickly and is then difficult to smooth out. The smoothing out of the filler is by far the most important operation of the whole procedure. If this is done correctly, very little sanding of the filled surface will be necessary.

### Power and Hand Sanding

The sanding should be done with a power sander wherever practical. This will result in a large saving of labor. Parts or surfaces that cannot be sanded with a power sander should be sanded by the "flat palm" method. A workman using the "finger tip" or "feather edge" method of sanding is about 50% as efficient as a workman skilled in "flat palm" sanding.

The greatest difficulty *most* workmen encounter in sanding is that they don't know when they have sanded enough. It is a common practice with workmen to try to sand a large area down to the level of a few low spots. When sanding, the general surface should be considered as a whole. Low spots can be built up with filler to the general level.

### Sealer and Finish Coats

Before sealing, the *sanding* dust and grit should be thoroughly removed, first by dusting, and then by sponging off the naphtha. Otherwise, sand pimple blisters will surely show up. These blisters can be removed by sanding, but if they appear it is a sure sign that the sealer will chip off easily. The sealer *should* be sprayed decidedly wet.

*Some* manufacturers believe that because they use a pyroxylin lacquer filler they should also use a lacquer finish coat. Personally, I favor a regular synthetic machinery paint. A heavier coat can be applied at less cost. If the synthetic is thinned just enough to break up well, it will help to cover any minor defects, as in drying more slowly it has a better chance to flow out.

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### Portable Mixer Bulletin

A new colorful 8-page bulletin describes, illustrates and gives specifications on an extensive line of motored portable mixers and parts manufactured by the Mixing Equipment Co. Inc., 1037 Garson Ave., Rochester, N. Y. Methods of using mixers are illustrated and described. This is a valuable bulletin for any concern that uses or should use portable mixers.

WHY MODERN MANUFACTURERS TODAY

# *Need Trained Finishers*

BY JAMES A. BEDE

**He who knows How will always have a Job.**
**He who knows Why will always be his Boss.**

IT IS WELL to bear in mind the above motto. The more thought and understanding with which a finisher approaches his tasks, the more valuable are his services. It can mean all the difference between making his work a drab unpleasant job or an interesting, exhilarating occupation.

The finisher, in an average plant, is often confronted by variable factors and conditions that alter each given set-up, and his most efficient solution requires a knowledge of both HOW and WHY. Out of step with the advancing times was the supervisor who, when he was breaking in a new sprayer, said: "All you have to know is: watch out for dirt, watch out for sags, and watch out for misses."

Industrial finishing is really a profession that calls for a combination of craftsmanship and knowledge, yet there are few professions so overlooked by professional men as industrial finishing. True, we have our chemists —but they are in the laboratories. Some have infiltered into the selling field and still fewer into finishing, but there is room for many more.

Every foreman finisher would profit tremendously by having a more comprehensive knowledge of the rudimentary constituents of paints. He would then be able to visualize the major components that make up the finish he is using and understand their action and reaction under standard conditions. He should have a good knowledge of thinners and solvents needed to reduce the finishes he is using. This knowledge would enable him to utilize, to the greatest advantage, the various adjustable manipulations of finish application, such as solvent composition, viscosity, temperature control, spray adjustments, etc. These factors are similar to an equation in algebra. A change in one requires a compensating change in another in order to maintain the proper balance. For example, a change in synthetic thinner from toluol to, let us say, 10% butyl alcohol and 90% high-flash naphtha, but maintaining the same viscosity, would require, for normal spray operation, an increase in air pressure of 10-lbs.

The former solvent is used effectively to obtain a heavy build, with less chance to sag; the latter, a thin smooth film, free of orange-peel effects.

The issue may be raised that the finisher need not know all these things; that the paint manufacturer works out all details and the finisher is only expected to use the materials as instructed. Such is seldom the case, however, except for the large purchaser. The chemist, in the far away laboratory, has only a meager knowledge of all the conditions to be contended with, therefore he attempts to strike a general average, leaving a certain amount of variable leeway to the finisher. Under special conditions, greater difficulties are encountered.

To illustrate a case wherein the finisher adjusted his solvents satisfactorily to meet variable conditions, a certain item made of three different kinds of metal —cast iron, pressed steel and die-cast zinc—was to be painted the same color. Experimentation showed that to obtain the best results, each piece required the enamel to be thinned to a separate viscoscity, using solvents of different evaporation rate.

As for obtaining the necessary information from paint salesmen, thrice blessed is the firm that has calling on them a salesman who really understands finishers' problems. Often theirs is snap judgment, following conservative lines. Many an executive, attempting to obtain information and guidance from various paint salesmen, has found himself in a maze of conflicting opinions and ideas.

Obviously the man closest to the job is the one who is potentially the most capable of controlling the functions of the department, provided he has the background of sufficient practical knowledge. The paint foreman who makes it a point to learn the WHY of everything he does, is an invaluable asset to his company.

## Wins "Routex" Contest

In the "Routex" prize contest, wherein the Reliance Varnish Co. of Louisville, Ky., offered $100 to the finisher submitting the best method of using "Routex," Reliance's quick-drying enamel for striping ornamental routings or narrow grooves in furniture, Mr. Albert Van Dyke, of St. Marys, Ohio, was awarded the prize. His entry was chosen from among a great many contestants, the judges being Editors of INDUSTRIAL FINISHING magazine. Announcement of this contest was published in full-page advertisements in September and October issues of INDUSTRIAL FINISHING, page 17. Congratulations, Mr. Van Dyke.

Albert Van Dyke of St. Marys, Ohio, is awarded $100 Prize in the "Routex" Contest

## Baltimore Paint & Color Works Is Building Another Addition

Mr. Morres Shuger, President of the Baltimore Paint & Color Works, Inc., Baltimore, Md., announces that another building is being erected as an addition to the company's plant. This is the tenth addition to the plant since 1926. Mr. Shuger states that the year 1938 produced the largest volume of business in the company's history.

# HOW TO FINISH *Philippine Mahogany* IN THE *Harvest Wheat Color*

**BY R. E. CASEY**
Foreman Finisher

TO FINISH PHILIPPINE mahogany in the harvest wheat color, the first step is to sponge the exposed surfaces with a thin glue-size solution—doing this in the cabinet department. After the treated surfaces are thoroughly dry they are in condition to be lightly polished on the belt sander. They are then ready for the No. 1 bleach solution.

I prefer to spray this bleaching solution, but the operator should wear rubber gloves in order to prevent any burns that this strong solution would cause if it came in contact with his skin. The No. 1 bleach should be allowed about three hours to dry. Then the wood is ready to be sanded down smooth with No. 6/0 sandpaper.

The No. 2 bleaching solution is applied in the same way and allowed to dry four hours, after which the surfaces are again sanded smooth with No. 6/0 sandpaper. The wood is now ready for the water stain or non-grain-raising stain solution. It is necessary for this stain to be applied in such a way as to produce a uniform color.

When the stain is thoroughly dry, we are ready to use a wash coat of water white sealer or white shellac. It is important to give this shellac plenty of time to dry, for the wheat colored filler is to be applied next.

Twelve pounds of the paste filler must be mixed to a gallon of thinner, so as to obtain perfectly filled surfaces. This filler must be light in color to prevent the pores of the wood "taking too dark," as this finish does not require dark pores. Another important thing is to let the filler flatten out on the work; then rub it thoroughly across the grain of the wood, using a soft rubbing rag or tow. On high priced work I find it a good plan to apply a second filling on all tops and fronts to obtain a perfect filling job. This second application of filler will eliminate any pin hole trouble on the work later.

After the filler dries overnight,

we are ready to apply a coat of water white sealer or white shellac, as preferred. When this sealer coat is thoroughly dry and sanded down smooth with No. 6/0 sandpaper, the next step is to treat the surface with a light application of blending stain, which will completely uniform the color of the different woods on the work.

When this glazing stain becomes properly dried, which takes approximately four to six hours, depending upon the drying conditions in the finishing department, we apply another coat of water white sealer. We sand this sealer down to a smooth surface and apply a heavy coat of water white gloss rubbing lacquer. In order to get a high grade film of finishing material on the work, I would suggest using a 27% solids lacquer.

After the lacquer has dried thoroughly the next important task is the rubbing and polishing operations. One of the best and fastest methods that I have used is to apply plenty of "Varsol" on the surfaces with a brush or rag, and then sand them smooth with No. 320 wet-or-dry sandpaper. We put new sandpaper on to the pads of a portable rubbing machine and rub the tops and fronts smooth. Then we remove this used sandpaper from the machine and use it to hand sand the ends, posts and partition rails. We clean up the work, wipe it dry and apply a good furniture polish. When the excess polish is wiped off, we have a beautiful finish. The wheat color finish on Philippine mahogany is a popular finish for furniture today.

We observe that synthetic enamels are increasing in popularity—particularly enamels made with urea resin. Such resins, in addition to being very clear and light in shade, bake hard and perhaps more nearly approximate porcelain enamels than do most types of resin. They offer splendid resistance to marring and scratching . . . page 41.

## Applying Decalcomania Lettering

PRINTED directions for their application appear on many decalcomania designs that you buy, and those directions are usually correct for all general purposes. Sometimes a little additional information of value is discovered by the man who uses these decals repeatedly — special information relating to the particular surfaces he is working on and the conditions under which he is working. This is the case in the application of duplex paper decals of letters and numbers that are put on the outsides of repainted steel street cars, buses and trackless trolleys operated by the Indianapolis Railways, Indianapolis, Ind.

Naturally, the company name placed on both sides of the car near the roof, requires long sheets of decalcomania. Some of these decals extend over several raised rivet heads on the steel surfaces of the cars. These places must be pressed into position firmly over all the flat areas and close up to the edges of the raised rivets, with the result that the decalcomania tears neatly around each rivet head and leaves a small round hole. This is practically unavoidable. Only a few

# The Artist's Model

Chosen to pose before camera or canvas because she knows how to be beautiful . . . how to retain a sleek figure . . . how to glorify a smooth velvety complexion. She knows the art of make-up . . . the value of finish.

We know the art of make-up for commercial products . . . how to finish wood, metal and plastic articles in a manner that adds attractiveness and sales appeal.

Write us about your products . . . our creative studio is at the service of reputable concerns without cost or obligation.

## ROCKFORD VARNISH COMPANY

Manufacturers of Finishing Materials

ROCKFORD, ILLINOIS

*Announcing... SH*

# KEM LU

**The Versatile Illus**

## IT SPRAYS...DIPS...BRUSHES

***For Metal, Wood, Exterior, Interior Exposure***

Kem Lustral is not only amazingly versatile in application, but maintains its toughness, gloss and color to a remarkable degree on either interior or exterior exposure.

Not claimed as an "all purpose" enamel, it does a thousand and one things exceptionally well.

To you Kem Lustral Enamel means new opportunities to improve quality and cut costs on finished units because volume production makes this one of the greatest dollar values we've ever been able to offer. It means lowered inventories, simplified finishing schedules and because Kem Lustral is stocked at all S-W warehouses coast - to - coast,

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**SHERWIN-WILLIAMS INDUSTRIAL**

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# LUSTRAL

e Industrial Enamel

## RUSHES...AIR-DRIES...BAKES

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Check these additional features and write for further particulars.

1. The very latest synthetic-type enamel.
2. A full, smooth, mirror-like finish — brush, spray or dip.
3. Air-dries to touch in 60 to 90 minutes.
4. Dependable print-resistance for overnight packing.
5. A fast hard bake at 200° F.
6. Outstanding weather-resistance.
7. Recommended for both metal and wood surfaces.
8. An array of attractive and durable colors.

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USTRIAL FINISHES

**FREE!**

PRODUCT FINISHES HEADQUARTERS,
THE SHERWIN-WILLIAMS CO., CLEVELAND, O.

Please send me without cost or obligation, your new catalog on Kem Lustral Enamel — "From A Cleveland Laboratory . . ."

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of these places appear, however, and they are touched up by brush and enamel later—after the decal paper and sizing varnish have been removed.

Although the decal paper backing is well pressed down against the painted car surface and rolled with a hand roller, some air is entrapped under these large sheets and if something were not done about it (that is if it were not released) small parts of the lettering would not adhere perfectly or permanently to the surfaces—especially in the face of long weather exposure and repeated washings. The decal letters would begin to loosen at these blisters even though they were only tiny air bubbles.

A very simple and successful remedy for this condition has been developed. After both sheets of the duplex decalcomania paper have been removed and the exposed sizing varnish has been washed away with benzine or gasoline, the workman takes a small sheet of new clean No. 1 sandpaper and presses it by hand against the decal letters. The sharp grits of the sandpaper puncture these tiny air bubbles or blisters under the decal letters, thereby releasing all entrapped air and allowing the decals to be tightly and permanently cemented with varnish to the painted surfaces to which they have been applied. This simple "trick" has proved to be very valuable in connection with decal work — and it does no harm to either the letters or the surfaces over which they are applied.

After the release of these air bubbles, and when the sizing varnish over the decal letters has had time to become dry, the letters are skillfully varnished with a clear spar varnish which is applied to the letters only with a No. 12 red sable brush.

**The Hilo Varnish Corp's. Industrial Finish Exhibit, as it appeared at the New York Purchasing Agents' Convention held at the Pennsylvania Hotel Nov. 14 and 15, 1938.**

Photograph, courtesy of The Arco Co.

**PRESENTING A REVIEW OF THE NEW FINISHING MATERIALS FOR USE ON INDUSTRIAL PRODUCTS**

# REVIEW OF *The Latest*

THE YEAR 1938 saw the culmination of a great deal of technical development in the laboratories of finish manufacturers and, naturally, it was rich in the introduction of many fine new products. The trend of the protective coating industry has continued its development of faster drying and more durable finishes. This trend applies to protective and decorative coatings for metal, wood, paper, leather, fabrics, rubber and composition materials used in the manufacture of industrial products.

Probably the most interesting development has occurred in bake finishes. Many of these are now formulated with urea-formadehyde synthetic resins. Finishes of this type are baked to an almost porcelain hard film in five to six minutes at temperatures of 325° to 350°F. Their stability of color even at these high temperatures makes possible unusual porcelain-like white enamels. They are mar-proof, chip-proof and resistant to various solvents. There have been cases where they have replaced porcelain enamels because they look and feel like porcelain, yet they can be stamped and formed without cracking or chipping.

The baking of these finishes is entirely a curing process,

# Product Finish Materials

therefore it is merely a question of time and temperature, ranging from 200°F. for 2 to 3 hours, to 350°F. for 6 minutes.

As compared with finishes that have been in general use, the urea-formaldehyde finishes are said to be six to eight times more resistant to moisture. This is important because refrigerators, washing machines, ironers, steel cabinets, bicycles and other metal products are susceptible to rust. The longer the finish resists rust, the longer will be the life of the article.

This type finish can be made to set up dust free, from the spray gun, in a very few minutes. Slower drying finishes

Photographs, courtesy of Advance Paint Co., Indianapolis

pick up dust and lint before they enter the ovens. This has always been a problem with finishers of high grade work. When urea-formaldehyde finishes first come from the oven they are hard and marproof.

Improvements in vinyl-resin as well as acrylin-acid-resin finishes have made rapid strides during the past year, each possessing desirable properties that are characteristic to themselves.

New cable lacquers have been developed to withstand temperatures as low as 10° below zero and as high as 400°F., and still retain their flexibility.

Synthetic lacquers, with the build almost of that of synthetic resin finishes and the drying time of regular lacquers, have been accepted particularly for transportation finishes.

Considerable improvement in wrinkle finishes, particularly in making them more foolproof and more uniform, has been accomplished over the past year.

In the finishing of furniture, showcases and store fixtures, the greatest interest seems to be centered on the subject of blond finishes—the so-called Swedish Modern finishes which also go under various other names such as Wheat, Harvest, Yucca and Coronado. The Coronado finish is a little more colorful than the others, but is more or less in the same group. New and improved materials and methods have been developed for producing these light-tinted natural-grain finishes. Bleaching has become an important factor in connection with this swing to blond wood finishes.

While bleaching is acknowledged as perhaps the best way to prepare certain woods for a blond effect, it is significant to note that one or more manufacturers of finishes have developed materials and methods by which a Swedish Modern finish can be produced without bleaching. Special seal coats, glazes and lacquers are employed.

In walnut finishes, apart from the borax group, there is a noticeable increase in lighter shades such as French, Olive, Belgium, Light Oriental, Patina, etc.

Maples seem to have a definite trend toward brown rather than red, and many new and beautiful colors may be seen under such names as Sun Tan, NuDark, Autumn, Salem, Amber, etc.

Oak still finds favor in many varying shades, mostly toward deep brown with heavily highlighted effect, and in many instances with contrasting fillers covering the entire range of colors.

Manufacturers of finishes have, it seems, succeeded in improving very noticeably, the color and grain effects for gum, and birch, so that it is no longer necessary to practically paint these woods to match walnut or mahogany when they are used in combination.

In so far as the sheen or gloss of popular high grade wood finishes is concerned, it may be noted that the trend is away from high gloss and heavy body. This softer and more beautiful finish increases the beauty of the wood and is much less likely to show scratches or imperfections.

Many finishes of today and the future are being "tailor made"—one material designed and made especially to fit the other used—with all materials in a finish being supplied by the same manufacturer. This is bound to pro-

****The new materials are conveniently grouped under these classifications:**


**Bake Finishes.....start on page 41**
**Air-Drying or Baking.....46**
**Air-Drying Metal Finishes.....49**
**Wood Finishes (mostly furniture).....55**
**Paper, fabric, rubber, leather.....64**
**Miscellaneous.....66**


**Please note the identification number following each listed product. When writing to "Industrial Finishing" for the name of the manufacturer or when sending a letter to be forwarded, be sure to mention this identification number. Your inquiry will be answered promptly.**

duce a more durable, trouble-free finish, as one poor material in a finish can spoil most of the good qualities of the others. It looks as though we might be producing some furniture at present and in the future that will last long enough as a thing of beauty and usefulness to become antique to future generations.

Last but not least, the silk screen method of wood figure reproduction from photography, applied to sound and durable cabinet woods that have little or no beauty of figure, is making a place for itself and is one of the popular finishes of the future.

## Bake Finishes

Here is a large and varied line of protective and decorative finishes for all kinds of metal parts and products. Many of the new synthetic materials are included—among them being the urea-formaldehyde and urea-formaldehyde-alkyd type materials. This classification includes primers, undercoats, top coats, and one-coat finishes for parts and products made of cast metal, forged metal, machined metal, plated metal, sheet metal and wire. All colors are available and practically any industrial requirement can be easily met, including coatings for thin metal sheets which are to be cut and stamped or formed into bottle caps and similar products, without harm to the finish. Resistance to marring, moisture, heat and chemical solutions are characteristic of these bake finishes. Smooth, wrinkle and metallic coatings are included.

**"Duranite Clear"** — For protective work, on any number of objects; bakes from 1 to 10 minutes at temperatures of 300° to 350°F.; produces an excellent appearance and gives great durability. Discoloration is held to a minimum; resistance to perspiration, caustic, alcohol, etc., is high. Lighting fixtures, trays, hardware, zippers, handbag frames, safety razors, are only a few of the uses for this newly developed Clear Duranite.—156.

**Polymerin** — A quick-setting bake finish available in white and color; in gloss, intermediate or dull luster. The final film is tough, flexible and very hard, resisting abrasion, marring and corrosion. It adheres to bare metal and is easily repaired if damaged. An excellent finish for electrical appliances, hospital and laboratory equipment, stoves, furnaces, machines, cosmetic cases and toys. It affords a smooth hard permanent-color coating of lasting durability, even when subjected to alkalies, acids and other discoloring agents.—157.

**"Duranite" (White and Colors)**—A family of finishes ranging from the pure white high-resistant coatings used for washing machines and refrigerators, on down to the highly

competitive finishes used in metal toys.

For refrigerator work, a one-coat Duranite is available, which, when applied to produce a dry film thickness of 1½ to 1¾ mils, gives a pure white finish with no shadows, that stands up to all the extremes necessary for a good refrigerator finish.

Where baking schedules in the past have run two coats, each baked from 60 to 80 minutes, this new Duranite finish can be applied in one coat, to bake from 5 to 30 minutes at temperatures of 300° to 350°F.—155.

**Duart Wrinkle Enamels**—These enamels are supplied in every color, including white and light pastel tints. They bake hard and wear-resistant with a short baking schedule—with uniform wrinkling and without glossy spots, "shiners" or "fish eyes." Practically no discoloration takes place during baking. The product is light in body and can be sprayed like synthetic enamel. Patterns can be varied from very fine to very coarse texture at the will of the operator. The coverage per gallon is high, and only one coat is needed. —110.

**Short-Bake "Dulux"** — An enamel on which the manufacturer's laboratories have worked for three years. One of the chief features of this finish is that it greatly speeds up production—bakes in 10 to 15 minutes at 350°F. Has satisfactory adhesion to metal and "good hiding" in one coat; may be applied on solvent-cleaned steel, bonderited steel or primed steel; shows hardness, mar resistance, flexibility and high resistance to grease, soap and alkali. White or colors are available.—104.

**Satin Glo Metal Furniture Enamels**—Two years of basic research have produced these new rich satiny baking enamels for application to office furniture, cabinets, safes, lockers. Supplied in standard and premium qualities, and for dip or spray application. Do not settle in package or tank; are free from flooding and silking. Toughness, abrasion, mar and chemical resistance, combined with unusual adhesion, make Satin-Glo enamels one of the most rugged punishment-absorbing finishes available.—142.

**Kem Bakolescent Enamels** — A baked opalescent finish for interior and exterior exposure; easy to apply, quick baking and foolproof; meets industry's desire for a practical new product finish of unusual richness and beauty.—145.

**Kem Baking Enamels**—Recent changes have improved this line of enamels in gloss and hardness. They are available in a wide range of attractive product colors.—139.

**Kem Appliance White Enamels**—A new group of baking white enamels intended for application to refrigerators, sink cabinets, hospital furniture, and appliances of all kinds. Supplied for baking at intermediate temperatures, up to the "quick high" or "flash bake." Characteristics include:

1) Excellent color retention (in sunlight or darkness).
2) Grease resistance.
3) Toughness and hardness.
4) Humidity resistance.
5) Resistance to chemical action, staining, etc.
6) High gloss.

Likewise provided are two primers,

**Do not overlook color. The proper choice of color may revolutionize your line. Because you like your wife's dress, or the shade of your new car, do not immediately decide that these colors will do for your production of kitchen chairs or lawn mowers. Consider carefully what you make, where it goes, who buys it and why you choose the color. The difference between success and failure often occurs just at this point.**

**Perhaps the most interesting item of the year is the swing toward the urea-formaldehyde-alkyd combination. This type of vehicle affords much greater hardness of film with extreme abrasion resistance, as well as alkali, water and various solvent resistance, and at the same time permits of extreme reduction in baking time. It finds its greatest use in white enamels for refrigerators and washing machines. Previously, these finishes were baked from one hour at 300°F. to two hours at 250°F., while the type under discussion permits of schedule of 10 to 15 minutes at 300°F., five to 10 minutes at 350°F., one hour at 275°F., etc. Furthermore, color is improved as well as retention of color. This combination of synthetic materials is used not only for whites but for colors, and is applicable to the finishing of bicycles with its brilliant shades. Schedules of five to ten minutes at 300° or 325°F., are possible without decrease in durability and with increase in hardness and toughness.**

one for treated metal and another for untreated metal.—138.

**White Baking Synthetic Enamel No. 993**—A one-coat finish for die-cast metals and sheet steel. Can be baked for 30 minutes at 315°F. Especially designed for washing machines and household appliances.—126.

**Speed-Cote "X"**—A quick baking material; bakes at 275°F. in 15 minutes, producing a hard tough tenacious film. It bonds itself to bare metals so well that, in the majority of cases, priming coats are not needed. Has excellent resistance to water, gasoline, grease, weak alkali and acid solutions. One of the most interesting facts about this material is that it reduces 60% to 75% for spray application . . .—153.

**LoBake UltraKote**—Bakes at 150°F. for ½ to 1 hour to an extremely hard, tough, flick-proof and lustrous surface. Resembles porcelain in appearance and resistance to solvents but withstands chipping much better. Adheres to brass, steel, zinc die castings and other metals perfectly. Produced in porcelain white, clear and all other colors. Has unusual build and depth of film. Also available in brilliant metallic effects that are extremely perspiration resistant and which tend to smooth out imperfections in the metal underneath. Burning alcohol and cigarettes have little effect on this finish.—161.

**HiBake UltraKote** — Bakes in as short a time as 30 seconds at 1000°F., and at all temperatures down to 150°F. for one hour. Produced in a white that resists yellowing at elevated temperatures for long periods of time. Also produced in white and colors that have remarkable resistance to as high as 3% caustic solution.—162.

**UltraKote Baking Undercoat**—For use under UltraKote urea-formaldehyde finishes. This undercoat air-dries readily to take a top coat of urea-formaldehyde finish; then both coats are baked in one operation. Gives perfect adhesion and a wonderful bond between the top coat and the metal.—163.

**A1. Sparkle Rip-pl (Low Bake; Oil Type)**—A fine wave line wrinkle finish with glistening silver specks can be produced as follows:

Add a brilliant coarse aluminum powder to the wrinkle finish material, mixing the material thoroughly and then reducing the Sparkle Rip-pl 7/1 with naphtha. A full even coat is sprayed on and then baked for 1½ hours at 200°F. This material is available in several attractive colors.

The Sparkle Rip-pl may be used

on any non-porous surface. It is well suited for heating and air-conditioning equipment, toys, novelties, etc. This finish is proof against alcohol and grease; it is moisture and oil resistant. The metallic appearance may be varied by increasing or decreasing the quantity of aluminum powder used to the gallon.—180.

**Tuf-On 110 (Heat-resisting)** — A beautiful finish resembling porcelain; withstands the most severe painting tests, alkali and acid tests, as well as high-temperature tests. Supplied in white, pastel shades and deeper colors, but must be baked at about 400°F.

Tests of Tuf-on 110 White have been conducted at temperatures of 600°F. and there is practically no discoloration. One coat of Tuf-on 110 is often sufficient because of its exceptional covering properties. Thins with acetone. This material is of particular interest to manufacturers of stoves, reflectors, and other fixtures where color maintenance at high temperatures is a factor.—130.

**"Polydur" (High-speed Synthetic Enamel)** — A synthetic enamel that gives an excellent finish with a short high-temperature baking schedule. After baking the finish is heat-resisting.—113.

**Metallic Rip-pl, One Coat** — Gives an attractive wave line effect and a metallic sheen in one coat. This finish can be used on any non-porous surfaces. No priming, sanding or other preliminary metal treatments are necessary. One coat of Metallic Rip-pl hides surface imperfections.

The material reduces seven parts Metallic Rip-pl Enamel to one part of naphtha. It is applied by spraying. Best results are obtained by allowing freshly coated objects to air-dry for 20 minutes before they undergo a bake at 225°F. for 1½ hours.—175.

**Vitra-Carlite**—A new porcelain-like, short-bake, synthetic enamel. It covers excellently in one coat, laying on with a full smooth film. Has excellent hardness and marproofness; also chemical resistance, especially to solvents, oils, greases, etc. May be brushed, sprayed, dipped or tumbled. The finish is elastic; it has good adhesion to aluminum, brass, cast iron, chromium, copper, galvaneel, galvanized iron, steel, tin and zinc. Colors retain their shade with age to a good degree.—176.

**Porcenite Finish**—A one-coat bake finishing material that looks and feels like porcelain but doesn't chip or crack. Being resistant to water, soaps and other alkalies, it is a finish particularly well suited for use on various household appliances including washing machines, ranges, refrigerators, etc. The white Porcenite has remarkable resistance to yellowing. Baking temperatures will vary according to the time allowed in the oven. For light-gauge metal the suggested schedule is 250°F. for one hour, or 300°F. for 45 minutes. The finish is hard when it leaves the oven. A one-coat finish of Porcenite

**Wrinkle finishes seem to be coming more in demand than formerly. On the other hand, the trend seems to be away from iridescent finishes. Perhaps these were just a fad. At any rate they do not seem to be in such demand as when they first came out.**

over metal has the appearance of an ordinary 2-coat finish job; available in white, black and colors.—177.

**Buff Cap Coating V-839**—This coating is intended for closures where a moderately priced efficient coating is desired. Takes printing well, has remarkable color retention, high gloss and offers satisfaction in flow, coverage, flexibility, fabrication and sterilization. Film thickness, 12-mm, by roller coating; bakes at 260°F. for 20 to 25 minutes.—119.

**Green Litho Coating V-836**—This coating was developed for closures used on various Campana containers. Working properties include freedom from streaking, fading or loss of gloss; withstands the usual alcohol tests. Excellent fabrication for any size or style closures. Thins with mineral spirits or Solvesso No. 3. Bakes at 300°F. for 17 minutes. Roller-coat application; film thickness 12 to 13-mm.—120.

**High-Bake Enamel** — Baking temperatures, 400 to 410°F. for 18 to 20 minutes; for roller coatings or spraying; film thickness 13 to 14-mm. Thins with No. 2 Solvesso or equal. Available in white, gray, green, brown and black. Films are flexible, even though baked at high temperature. True colors; excellent gloss; finishes are easily handled in production.—121.

**Alum-Cote High-Heat Resisting V-935** — This ready-mixed aluminum is bright and retains its brilliance on long standing. It is used principally as its name implies, for high-heat resistance, such as furnace doors, stoves, heating jackets, heating units, etc. Application by spraying; sets to touch in four hours; air-dries overnight, or bakes at 250°F. for one hour.—122.

**White Litho Closure Coating V-704**—A bake finish for roller-coat application to metal sheets to be formed into cans or closures; has excellent adhesion to bare metal; takes printing satisfactorily; has remarkable color retention, flexibility, high gloss, excellent top hardness and marproofness. Also, good sterilization. Thins with Solvesso No. 3; bakes at 250°F. for 25 minutes; film thickness, 12-mm.—115.

**Yellow Litho Finish (Pepsi-Cola) V-895** — Has characteristics almost identical with White Litho Closure Coating named above.—116.

**Black Litho Closure Coating V-692**—A foolproof flexible gloss black finish for metal sheets to be formed into closures; has excellent top hardness and marproofness; bakes at 350°F. for 25 to 30 minutes; thins with Solvesso No. 2. Application by roller-coating machine. Thickness of film, 13-mm.—117.

**Matt Finishing Clear Varnish V-801**—A clear coating formulated to produce a satin-like finish over printing where gloss is objectionable. Has water white color, excellent color re-

**Owing to the large number of highly special finishes that are now available, no one but a specialist in industrial finishing can select the most suitable finish for use under a given set of conditions. For this reason, users of industrial finishes should look to the maker of the materials they use for guidance in the selections of finishes. It is only through the closest cooperation that the best results can be secured at the lowest cost per unit.**

**Color-and-metal combinations are increasing in use. Aluminum and zinc have been added to the list of metals that can be used in this style because of the development of clear lacquers that protect their surfaces from tarnishing. Polished chromium has to be colored by special methods, since lacquer-enamels do not adhere well to its surface. The methods employed include: 1) baking on a special primer which adheres well and forms a foundation for the lacquer-enamel; 2) lacquer the parts of the product to be colored before chrome plating with a lacquer that withstands the action of the plating bath, and then plating the exposed metal areas.**

tention and perfect flow; thins with Solvesso No. 3; bakes at 225°F. for 25 minutes; roller-coat application; film thickness, 10 to 11-mm.—118.

**Rincon-trol (Textured Enamel)**—An improved finish which has the following characteristics:

1) Ability to produce a perfectly uniform appearance on all surfaces of the finished product without glossy spots, fish eyes or fatty edges, independent of the skill of the individual operator.

2) Uniformity of appearance on different parts, when assembled after finishing, even though sprayed by different men.

3) Perfectly matched appearance on various surfaces of different character; for example, cast metal and sheet steel.

4) Perfect pattern or texture formation, whether the finish is baked immediately or allowed to stand several hours before entering the oven.

5) Repairability of the film if it should be damaged . . . . may be sanded in the damaged area and re-sprayed, with the assurance of perfect uniformity. The same appearance results from one coat or two coats.

6) True decorative value obtained through close-knit textures and soft glare-absorbing sheens, without any sacrifice of the defect-concealing function of the finish.—102.

**Bed Spring Enamel P-6458**—A baking enamel especially designed for the dipping of bed springs; can be sprayed also. It is tough and elastic; will not skin or settle in tank; remains uniform; retains its color; thins with toluol; bakes at 200°F. for 45 minutes.—131.

**Burn-proof Lacquer (No. 8079)**—Designed for use on metal ash trays or any metal parts that must be finished in a clear burn-proof lacquer. The finish will resist burning cigarettes, alcohol, ethyl acetate and direct flame. This material is applied by spraying and should be baked for 30 minutes at 250°F.—205.

**Rubbing & Polishing Varnishes (Nos. 120 & 125)**—These varnishes are of a semi-synthetic type and are designed especially to meet the demands of manufacturers using conveyor systems. They will dry in an oven at 145°F. in one hour, and after cooling 35 minutes may be rubbed. Both of these varnishes are print resistant. They represent excellent quality at reasonable cost.—206.

## Air-Drying or Baking

**A few finishing materials are of such character that, after application onto metal surfaces, they can be either air-dried or baked. These materials have merits that recommend them for several different kinds of quality finishing.**

**"Roxaprene" (Chlorinated Rubber Base) Finishes**—Fast setting; films are out of dust in lacquer time; dry enough to tape in six hours. Air-dry

synthetic production schedules are greatly shortened.

Versatile; the same enamels air-dry or bake (one hour at 180°F., ½ hour at 250°F. are typical schedules).

Flexible; they may be drawn and formed into bottle and jar caps.

Permanent in adhesion; films over two years old may be bent double without cracking.

Free Flowing; they roller-coat and dip without silking or sagging.

Alcohol Resistant; immersion in pure spirits for 24 hours will not soften the film.

Salt-Spray Resistant; films have withstood 6000 hours continuous exposure to 5% calcium chloride spray.

Chemical Resistant; special formulations withstand constant immersion in and exposure to continuous spray or corrosive liquids for 600 hours without failure.

Alkali Resistant; they eliminate "burning" or blistering when applied over alkaline surfaces.—101.

**Jet Black Synthetic Enamel No. 996**—An entirely new jet black synthetic enamel having extreme resistance to corrosion and chemicals. Can be air dried or, for faster finishing schedules, force dried or baked. Recommended for service that requires toughness and extreme outdoor durability on metals.—127.

**Dowmetal Primer**—A series of improved protective base coatings (air-drying and baking) for use on both treated and untreated dowmetal. These primers have remarkable adhesion, general workability, compatability with top-coat finishes, and weathering resistance; can be used on all dowmetal products; are adaptable as primers for wrinkle finishes, aluminum finishes and others.—125.

**We have developed an etching resist, which can be screen processed upon glass, for 8 to 12-hour deep etch, or upon various kinds of metal for quantity etching. This material is not an asphaltum base, but is made from special materials that can be used the year around in any and all atmospheric changes.—251.**

**Production Black Enamels**—Manufacturers of auto frames, advertising sign frames, tools, auto parts, drums, farm implement parts, switch boxes, conduits, motor housings, fans and a wide variety of metal stampings, find the four Production Black Enamels providing the utmost of desirable qualities . . . . one of the four is designed for fast air-drying or baking, while the other three are for baking only. All can be baked over a wide range of schedules. May be dipped or sprayed.—143.

**Dipping Aluminum Finishes**—May be either air-dried or baked as the user desires. The powder is so well held in suspension that it is not necessary to use mechanical agitators when using this type of vehicle. These finishes come all ready with

the powder mixed in the drum and a few turns of the agitator puts them in condition ready for use. They are very tough and stand considerable exposure as well as hard usage, especially when baked.—195.

**Kem Lustral Enamel**—(The Enamel of 1001 Uses). Comprises a line of fine colors for maintenance and product finishing, and represents one of the big developments in paint history; for either interior or exterior exposure. It maintains its toughness, flexibility, gloss and color, with a minimum of chalking.

Recommended for application to tractors, steam shovels, toys, pumps, tools, lawn furniture, lockers, advertising racks, etc. It air-dries to touch in 1½ to 2 hours; to handle in 6 hours; bakes at 200°F. for one hour. Can be dipped, sprayed or brushed.—140.

**Hammerloid**—A striking development in novelty finishes. Upon seeing for the first time a piece of smooth metal finished in Hammerloid, practically everyone believes he is looking at a piece of metal which has first been hammered to produce an uneven surface and then finished in a tough, glossy, synthetic enamel with a metallic brilliance.

Hammerloid is furnished at about the same consistency as conventional types of synthetic enamels. After taking a small reduction it is applied to bare metal in one full covering coat with an ordinary spray gun. Within five minutes after spraying, it is spattered with a clear liquid applied with a spatter gun. The work is then baked an hour at 250°F. or air dried over night.

Hammerloid tends to hide small imperfections in the metal to which it is applied. It is available in a wide variety of colors, including red, green, blue, gray, brown, silver, gold, and copper, all of which have the mottled metallic brilliance that makes this a striking and attention commanding finish.—197.

**Rust-Resistant "R-700"**—This material is neither a varnish nor a lacquer. It is a carefully balanced combination of unusual synthetic materials developed to offer the following desirable qualities:

1) Maximum resistance to rust under all conditions.

2) Quick drying time to fit in production schedules.

3) Tenacious adhesion to metals.

4) Wide range of time and temperature schedules.

5) Suitability as a permanent priming coat under other finishes.

6) Leafing and suspending powers for bronze powders.

7) Clarity and lightness of color.

A thin bare coat of clear R-700 stands over 30 hours under a rigid salt spray test; or two to three years' exterior exposure in average climatic conditions. Pigmented with aluminum, it stands 70 to 75 hours salt

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Our attention was called to a finish which has been applied by a manufacturer of valves, which we think is rather unique in that it gives the valve a perfect protection with a coat of material of unquestioned resistance to rust and corrosion. These are cast iron valves and are coated by dipping in a combination of metal protective coatings mixed with a paste metallic lead.

This mixture is made in the same manner in which aluminum powder or paste is mixed with any vehicle, but the pigment portion of the combination is metallic lead. This produces a very beautiful gray lead finish on the valve which is not unlike the appearance of any gray casting. The material dries in about ten minutes, giving a uniform coat to all of the surface of the valve, inside as well as out, rendering protection which naturally would cover all parts.—253.

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**A new flame-proofing agent for textiles, which may also be used on paper, means a material that is fire-retardant and not necessarily fireproof in the sense that fabrics so treated cannot be burned. However, it does make fabrics flame-proof in that they do not blaze or smolder, and accordingly will not spread fire. The latest flame-proofing material gives fabrics a soft, pleasing "feel" and does not have any appreciable influence on the strength of the fabric or on the dyestuffs commonly used.**

spray. The drying time, full body, is 10 minutes; reduced 25% with toluol, 5 minutes; reduced 100% with benzol, 2 minutes.

Although the drying time is very rapid at ordinary temperatures, a greater durability against rust is obtained when the finish is baked. A wide variety of schedules is available, from 150°F. for one hour to 350°F. for 10 minutes.—159.

**Bed Spring Enamels**—In these products, cost per finished unit, rather than cost per gallon, is the yardstick. They provide remarkable toughness, coverage, gloss and economy. The colors are clean and attractive. Outstanding is Silver Clad, the silver enamel that looks like real silver plate. It may be applied by spray, flooo or dip . . . . and air-dries or bakes quickly.—137.

**Anavitro Enamel**—A synthetic enamel that will cover solidly in one coat over bare metal; dries dust-free in 15 to 20 minutes, dries to handle in two hours, and bone-dry in 6 to 8 hours. When dry, it approximates baked finish toughness. When specifications demand, it can be baked 20 to 30 minutes at 180° to 200°F. The finish is resistant to gasoline, lubricating oil, bacon fat, pickling vinegar and other deleterious materials of a similar nature.—204.

## Air-Dry Metal Finishes

Included in this group are lacquers, synthetic finishes and coatings made of certain combination formulas . . . primers, top coats and one-coat finishes in colors and clears for interior and exterior exposure. They are chiefly noted for such characteristics as excellent adhesion, smooth flowing, lasting flexibility, extensive coverage, permanent color retention and remarkable durability.

**Oxichrome Spraying Primer**—A heavy viscous red priming material for use under synthetic or lacquer materials. The recoating time under lacquer should be ten minutes to one hour. Recoating time under synthetics should be ten minutes to four hours. Yields a semi-gloss priming coat so smooth in texture that it needs no sanding. Has extreme tenacity to all types of metal and to treated metal surfaces, such as galvanize or galvanite, when such metal has been further treated with recommended preparations such as Deoxidine, Metalprep, Lithoform, etc. Is recommended for spraying application only at not less than 50-lbs. air pressure. Recommended for use on either ferrous or non-ferrous metals. Reduces to spray, three parts reducer to one part material. The reducer should be toluol or any other Syntol reducer.—154.

**Quick Air-Drying Aluminum Synthetic**—Dries tack free in 20 minutes. This material, No. 66E-656 Aluminum Synthetic, is of exceptional brilliance and has excellent adhesion, durability and weathering qualities. It has phenomenal flow and dipping characteristics and imparts a bright smooth finish in a one-coat job, drying free from sags, runs or drips.

On dip application the material should be used without reduction; for spray application it should be thinned to meet specific require-

ments. The material does not settle out; only normal stirring is required before use. Long baking at extreme temperatures is unnecessary with this air-drying material, hence production schedules can be materially increased.—262.

**Trans-Lux Metallic Colored Lacquer** — A highly pigmented flexible lacquer . . . . durable and will stand normal outside exposure. It dries to a tough surface which has a pearly metallic sheen and a fair luster. This attractive decorative and protective coating may be used on any non-porous surface to which ordinary lacquers or enamels could be applied. The smooth semi-lustrous finish need not be rubbed or polished, and no protective coating of clear lacquer is required.

On some metal surfaces — steel, brass, tin, copper and polished aluminum—Trans-Lux metallic colored lacquer adheres firmly. On nickel and chromium, better adhesion is obtained by first applying a coat of clear synthetic baking primer.—178.

**Colored Lacquers** — These finishes buff exceptionally well and adhere perfectly to all metals. They have the property of taking engine turning at any time in the future—when it may be desired to perform this operation, without chipping or letting go between the engraving patterns.—164.

**Alum-Cote Finish, Air Dry**—This is ready mixed for application. Its outstanding property is retention of the metallic brilliance on long standing. Dries hard to a metallic finish and will stay in suspension on prolonged dipping. Will not smudge. Unusual adhesion to the surface. For dipping or spraying; air-dries in 4 hours; thins with mineral spirits.—123.

**Gold-Cote Finish V-954**—An air-drying bronze powder finish that gives a metallic gold appearance—smooth, uniform, brilliant. Mixes 2½ to 3-lbs. of bronze powder to the gallon of No. 2 Solvesso thinner; air-dries in 4 hours; for dipping or spraying; has excellent suspension properties. Good retention of metallic luster in solution. Will not smudge. Unusual adhesion.—124.

**Pyroxylin Undercoat**—For automotive refinishing, designed especially for use under automotive "Pyralux." Purpose of the new coating is to prevent "sinking in" and to obtain a uniform gloss. It is light gray in color and is packaged in quarts, gallons and 5-gallon cans. Automotive "Pyralux" is a finish recently developed for touching up work and recoloring used cars.—160.

**Clear Lacquer No. 2275-A** — Designed for maximum protection of brass and bronze, brass-plated steel and brass-plated castings. In practical and accelerated tests designed

**Neutral primer for color variety—When a product is put out in any given color, it is common practice to use a primer of the same color. This custom is so ingrained that many manufacturers, who put out a single product in a variety of colors, use a different primer for each one. Since lacquer-enamels of excellent covering power are available, this complication is unnecessary. In modern practice all the units are finished in a single standard neutral primer or shop coat which is designed to give the product the requisite degree of protection. Then a coat of lacquer-enamel of any desired color (plus a topcoat of clear lacquer, if needed) supplies the final finish.**

to prove the prevention of spotting and protection against tarnishing and exposure to moist hydrogen sulphite, salt spray, humidity and perspiration, this clear lacquer provides a degree of durability hitherto obtainable only with clear synthetics requiring a bake of 275° to 300°F. This finish may be applied by dip or spray and is sufficiently flexible to permit blanking and forming of prefinished metal where desirable.—100.

**Methacrylate Clear Finishes (the RC-900 Line)**—These materials are based on clear methacrylate resins and, as a result, they deposit a glossy water-white film. Designed for use on smooth metal objects, these finishes afford unusual adhesion and flexibility when applied over clean bare metal and are exceptionally durable under outdoor exposure. They dry rapidly by evaporation, leaving a hard non-yellowing film which is resistant to acids, alkalies and alcohol. The RC-900 Line may be applied by spraying, dipping or brushing.—103.

**Automotive Pyralux** — Designed chiefly for touching-up synthetic resin finishes and for recoloring used cars; contains the quick-drying qualities of lacquers and the luster of synthetic resin enamels, and requires no rubbing.—193.

**Opex Clear Metal Finishing Lacquer No. 456**—A high-build lacquer of unusual toughness and adhesion for application to metal. These characteristics, combined with easy rubbing qualities, make No. 456 a "natural" for fine casket finishing.—146.

**Non-Jelling Bronzing Liquid (Lacquer Type)** — Will not jell, when stored over long periods, in mixture with gold or aluminum bronze. Provides "top" qualities of adhesion, toughness and gloss.—147.

**Crank Case Sealers**—Six new high-quality low-priced sealers in a range of colors. They provide the maximum in resistance to hot oil and alkali. Will not chip at edges when machined.—148.

**Opex Hi-Gloss Enamels** — A high quality, one-coat product finishing lacquer for interior or exterior exposure. Gloss and toughness have recently been improved to a new high standard. Provide excellent resistance to grease, alcohol, heat.—149.

**Toy & Implement Varnishes** — A new line of varnishes noted for maximum build, gloss, durability, and foot-coverage.—144.

**Dulac Perspiration Resistant Lacquer**—An air-drying lacquer. After hardening for a few days, it becomes practically insoluble and resistant to moisture, soap and water, and perspiration. Used for finishing such products as flashlights that are constantly held in the hands. Suitable for all metals including steel, which it rustproofs more effectively than ordinary lacquer.—111.

# Bakes QU

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DO *YOU* know about Du Pont Short-Bake DULUX? It's a finish whose amazing baking speed can save you time and money.

Because it's so much faster, Short-Bake DULUX allows you a *greater* output with *smaller* ovens . . . thus saving you a big investment in costly equipment.

On many objects Short-Bake DULUX gives highly satisfactory ults wi coat, instead of the ual prin two coats when orth x enam It is a durable, brilli -white available in colors). an be a to solvent cleaned s bonde primed steel surface has ex bility, adhesion, glo d hardn

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ctory ults with only one of the ual priming coat or n orth x enamels are used. brilli y-white enamel (also lors). an be applied direct ned s bonderited steel or rface has excellent flexi-n, glo d hardness . . . ideal for almost any metal object where constant outdoor exposure is not necessary.

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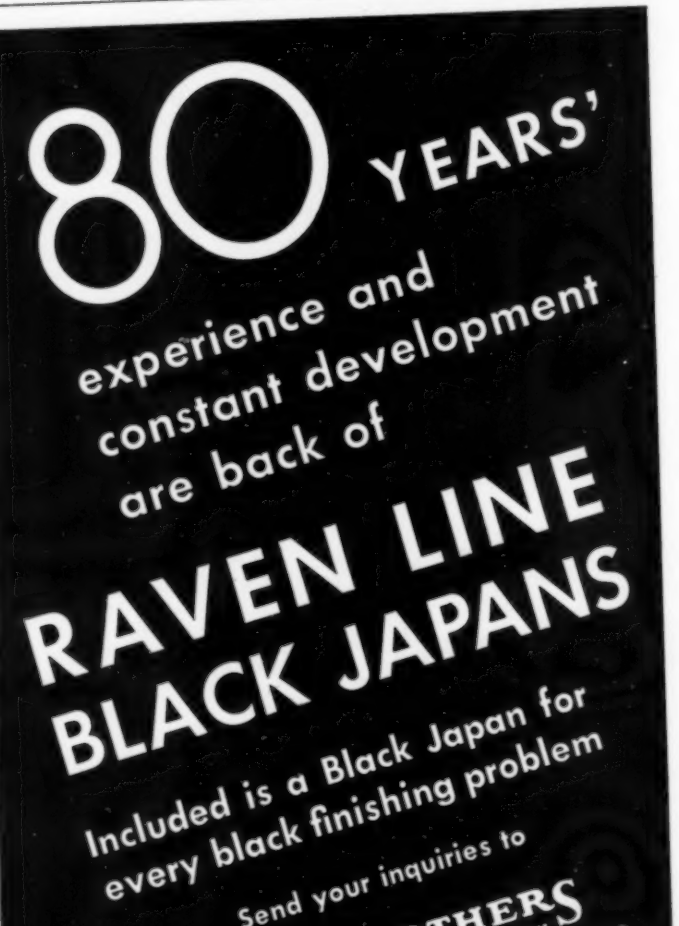
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**Clear Brass Lacquer No. 702** — A new development in brass lacquer that has outdoor durability as well as non-greening qualities. Tests conducted for a period of 6 months with brass metal standing in the lacquer shows no signs of discoloring the lacquer or the metal. Also recommended as a perspiration-resisting and non-spotting-out lacquer.—128.

**Gray Metal Primer No. 711**—An air-drying primer having very good adhesion to metal. Fast drying. Can be recoated in 30 minutes with lacquer or synthetic enamels. Recommended for outdoor use under fillers or enamels.—129.

## Wood Finishes

**Items listed in this group include practically every type of material used in modern wood finishing—stains, fillers, clear and colored sealers, toners, glazes, bleaches, lacquers, varnishes, synthetics, enamels and rubbing compounds. Materials are available for use on both low priced and high priced furniture, store fixtures and various other wood products. Wood finishes have been improved so they impart greater beauty, give more durability, withstand longer and more severe service, and permit shorter finishing schedules.**

**Dri-Dark Rubbing Compound** — A real rubbing compound that will not show white in routings or corners after drying. Dri-Dark rubbing compound dries dark and does not show. It has an extremely fine, sharp abrasive—a cleaner and a wax content all of which make it the perfect rubbing compound.—192.

**Nuoil Wood Filler**—Basic changes make this material an outstanding wood filler. It is not even like any old type filler . . . . The major difference lies in the fact it may be wiped with ease after 30 minutes or even after one hour. An easy wiping, splendid filling, non-shrinking wood filler.—188.

**Lactone**—An easy sanding, heavy-bodied combination toner and first coater. It is a combination of water stains and sanding surfacer. Many large users have found it possible to produce a satisfactory finish on maple, gum, birch, tupelo, etc., with one application of Lactone plus one coat of lacquer or varnish. In other words just two material applications produce the complete finish. Lactone colors are light fast, non-bleeding, clear and transparent.—189.

**Nu-Glaze**—An item that completely changes the work involved in highest grade glazing or blending. The pigment colors are so finely ground that they actually permit of blending as finely as anilines. No grit or rough particles remain on the surface. Nu-Glaze brushes smoothly and easily. The oils and japans used are new, different and of remarkable merit. Nu-Glaze "tacks," sets and dries exactly as it should, and eliminates all "blending" problems.—190.

**Du Bar Bleach**—A major improvement has been made in its working properties; it is now odorless. It may be applied in a single application and it is more powerful and uniform in its bleaching properties.—191.

**Furniture Finish Fillers**—Developed and improved during the past year are two lines of fillers — overnight drying type and fast dry (3-hour air dry). Years of basic research into the cause of filler failure has resulted in the defeat of those finishing nuisances known as popping, shrinkage and poor drying. These fillers possess outstanding mileage (more pieces per gallon) coupled with positive drying characteristics (the fast-dry filler actually dries in 3 hours). They add to rather than detract from the toughness of the finish. Of course, the filling itself is excellent, and

**We have an acetate screen filler for coating in blank spaces upon the silk screen stencil. This material is made especially for silk screens where lacquer screen process colors are being used. It can also be used on screens where oil or water colors are being screen processed, yet the material can be removed easily with a special solvent, where the screens are to be used for other jobs.—252.**

wiping is easy. No graying. The settling of pigment is at a minimum and can be easily and quickly stirred into suspension. Satisfactory at higher drying temperatures, also.—132.

**Opex Lacquer Sealers** — A whole new and revised line of sealers—Royalty and Non-Royalty . . . . "the toughest 27% sealer we have ever seen."—133.

**Rubbing & Polishing Varnishes**—A new range of varnishes for every class of furniture. Notable improvements are in brightness, toughness and drying.—134.

**"Nu-Wype" Oil Stain**—A new type of oil stain that gives great depth of color, uniform penetration, and is remarkable for its ease of application. According to the manufacturer, this stain uniforms the color of the wood so well that shading stain is seldom if ever needed, and it is so easy to wipe that the cost of labor and rags for wiping is greatly reduced.

"Nu-Wype" stains are particularly adaptable for use on close-grained hardwoods such as poplar, willow, basswood, maple, gum, tupelo, beech and birch.—179.

**"Blanchit" (Wood Bleach)** — Consists of two solutions, No. 1 and No. 2, which can be applied quickly and easily to any natural wood surface and which, upon drying, bring out the hidden beauty of the wood grain patterns in "lighter than natural colors." It neutralizes and treats the wood surface, thus guarding against the troublesome and costly chemical reactions that are common in treating woods; enables the finisher to protect the newly treated surface by the application of protective coats of transparent varnish or lacquer.—174.

**Mar-Vel-Film**—A new principle of formulation is used, giving properties that are outstanding in build, rubbing and polishing, print-proofness and cold-check resistance. One coat of Mar-Vel-Film Sealer and two coats of Mar-Vel-Film Gloss are equal to as many as three coats of lacquer. The usual graying and sinking away of lacquers is not encountered with this finish. Recommended for all types of furniture and especially for radio cabinet work.—210.

**Mar-Vel-Film Sealer**—Based on a new principle of formulation which has been tried and proven in production for more than two years. One coat of this sealer, with the usual drying time allowed, and two coats of Mar-Vel-Film give an outstanding finish.—211.

**Kwik Koting Edge Sealer** — For priming and preparing veneer edges and end-grain surfaces. Can be recoated with stains, fillers, shading lacquers, etc., immediately after application. May be applied by brushing or spraying; comes in natural for blond finishes, and in all shades for under stain and filler.—212.

**Kwik Koting Pigment Stain**—All popular shades in permanent, non-bleeding colors. Will not precipitate or settle when reduced with petroleum naphtha in the proportion of one part of stain to 3 or 4 parts of naphtha. May be re-coated in one hour if desired. Adds to the adhesion of the completed finish. Can be used for uniforming sap streaks before filling if sprayed or wiped on just before filling the panels.—216.

# 3 New Sales Appealing Finishes That Will Save You Money! . . . . .

**1. VITRA CARLITE** A short-bake, 100% Synthetic Enamel that gives a beautiful, glossy, porcelain-like in appearance film in one coat. The short bake at 300° F. for 20 minutes allows for *quick production — greater output*. Has excellent adhesion, hardness, flexibility, marproofness, durability, high resistance to solvents, oils, greases, etc. Ideally suited for metal objects and appliances.

**2. SPARKLE RIP-PL** A brilliant, sparkling finish can be given your products with Hilo Gold and Aluminum *Sparkle* Rip-pl (Baking). Novelty Finishes — they are coming into greater and greater use. Covers surface imperfections splendidly in one coat — no primer needed on non-porous surfaces. Proof against alcohol, grease, moisture and oil.

**3. TRANS-LUX** A highly pigmented, metallic colored, *flexible*, lacquer that gives unusual hiding in one coat—most lacquers of this type requiring two coats. Air dries overnight. Can be baked to handle in 10 minutes at 100° F. Its semi-lustrous finish needs no rubbing or polishing, nor any clear lacquer protective coating. Ideal for auto accessories, household articles, novelties, switchplates, etc.

*Complete information and samples furnished upon request.*

HILO VARNISH CORP.

42-60 STEWART AVE., BROOKLYN, N. Y.

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**Kwik Koting Primer Coat** — For metal or wood. Air-dries to re-coat in 5 minutes. Reduces with low-priced lacquer thinner or special reducer. Comes in natural for all-over sealer coat under colored lacquers or for blond finishes, and in walnut, mahogany and black for specific color needs. Light oak and similar shades may be had if desired. Unit cost of production is very low because of the high solids and speed of drying. Material comes with 100% more solids than ordinary lacquer sealers.—217.

**Mar-Vel-Film Red Toy Enamel**—A synthetic enamel especially adapted for toys and implements. Air-dries dust free and out of tack in 10 to 15 minutes. The film has a hard, smooth, deep luster and has remarkable adhesion, flexibility and durability. This enamel has unusual hiding properties and will stand extreme reduction with a special reducer, giving the lowest unit cost of any finish known at this time.—218.

**Mar-Vel-Film Buffing Finish**—This unique finish is highly recommended for use in the radio cabinet field. One coat of Mar-Vel-Film sealer and two coats of Mar-Vel-Film buffing finish gives the equivalent of three coats of lacquer. In from 4 to 10 hours after the final coat, the finish may be rubbed and buffed to a high polish.—219.

**Rubbed Effect Varnishes**—Two new grades, each available in three sheens—dull, medium and bright. Increased build and smoother appearance have made a big hit. There is no possibility of their "seeding" or taking on excessive body despite long storage or wide changes in temperature. Both grades dry to rub the next day.—135.

**Routex** — Designed for coloring route lines on furniture; a fast-drying, low-solids enamel. Cases can be set up and varnished 20 minutes after Routex is applied. Low solids prevent bridging and provide fast, thorough drying with perfect hiding. Routex is applied on sealer coat from overhead container through hose and trigger gun. This product is made in black and all shades of tan.—200.

**Varnex**—Designed to combine the fast-drying qualities of a lacquer with a body similar to varnish. The product is a unique synthetic varnish which combines, to a remarkable degree, these two features. Under good drying conditions, Varnex dries to rub or pack in six hours. It is available in both gloss and flat finishes.—198.

**Lacquer Sanding Sealer (S-12001)** —Contains 18% solids at the gun. Dries and sands in 20 minutes. Shipped ready for spraying.—105.

**Gloss Wood Lacquer (W-10000)**—Contains 21% solids at the gun. Suitable for rubbing and polishing; adaptable to large scale production; has good cold check resistance and is alcohol proof. Shipped ready for spraying.—106.

**Mar-Vel-Film Soft-Wood Finish**—A synthetic one-coat gloss or semi-gloss finish for soft or porous woods

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**Besides selecting the speediest finish, the manufacturer should also select the speediest method of applying the finish—whether by dipping, spraying, flowing, centrifuging, or otherwise. It would take us too far afield to discuss this phase of the subject here, but mention may be made of the fact that there was a marked increase in the use of centrifugal coating machines last year because of the rapidity with which they can coat many kinds of small products and parts.**

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# OURS IS A BIG BUSINESS - BUT ALL OF OUR CUSTOMERS COME FROM ONE STATE....

Stanley customers all come from Missouri — at first. They want to be SHOWN. And we like it that way. Showing how is our business . . . how to cut finishing time . . . how to reduce finishing costs . . . how to improve product salability. And we KNOW our business. Let a Stanley representative fit a coating to your production process. A letter will bring prompt action. Write Dept. A—

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**No matter how prosaic the article, drabness is not necessary. Experience has shown, for instance, that machine tools can be profitably finished in orchid, turquoise or canary yellow, with an increase in efficiency on the part of the worker. Drab, dirty grays are depressing; they inspire no sense of cheerfulness or desire to be neat and efficient.**

**The rapid progress that has been taking place for years in the finishing field continues unabated. The past year saw the development of a number of new finishes and new finishing processes which are of interest to manufacturers of metal and wood products because their use permits either the production of better products or lower production costs.**

(also may be used on hardwoods). Can be sprayed, brushed or dipped. Air dries to pack overnight; comes in clear and in transparent shades of maple, walnut and mahogany.—215.

**Swedish Modern Kkps Pigment Stain**—A modern pigment stain of exceptional uniforming qualities. Manufactured in all the popular shades of Wheat, Harvest and Fawn: for use on maple and birch; accepted by leading furniture manufacturers throughout the industry.—220.

**Mar-Proof Wood Finish** — Something delightfully attractive and remarkably durable in wood furniture and cabinet finishes, this mar-proof nitrocellulose lacquer is a radical departure from the ordinary lacquer products and produces a finish so hard and tough that it cannot be marred or scratched with the thumb nail.

One coat of this mar-proof sealer and one coat of the new mar-proof lacquer (either in the satin or gloss rubbing) produces ample body on the work for most purposes, but two coats of the mar-proof lacquer are suggested for higher class work. This mar-proof lacquer is particularly useful on a soft hardwood such as mahogany. It produces a splendid transparent finish of full depth and glossy smoothness on maple, walnut, mahogany and other cabinet woods.—181.

**Rub-Less Lacquer & Flo-Smooth Lacquers**—These two products differ from many regular lacquers in that they are made without the use of any low-priced solvents or diluents. By eliminating the fast-evaporating diluents which cause some lacquers to "set" before they have had time to flow out smoothly, this company has succeeded in producing lacquers which remain free to flow smooth, and as a consequence they require less rubbing. Both Flo-Smooth and Rub-Less lacquers are basically the same except for a slight difference in the gums used. Each is designed to serve a particular purpose; selection may be made between toughness of films, alcohol, hot and cold-check resistance and sheen. Both lacquers are available in either 21% or 27% licensed grades.—185.

**Sealtone**—An excellent combination of high grade, licensed or unlicensed sealer in combination with water colors. A favorite with furniture manufacturers. Sealtone is not to be confused with ordinary "colored sealers" wherein oil colors or asphaltums furnish the color. It contains light-fast water-soluble anilines and definitely stains and seals in a single operation. Fillers or glazes may be applied directly over it.—186.

**Watercil Stains (Improved)** — In these stains several replacements of water anilines have been made wherein newly developed and much more costly stain powders have been adopted. These changes have improved the light fastness and yet retained the regular exclusive Water-oil features of not changing with

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By uniting the plants, manufacturing and technical staffs, and Industrial Sales forces of both companies, we are able to offer a unique service to any manufacturer who finishes his product.

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*WATCH OUR ANNOUNCEMENT EACH MONTH FOR NEW, OUTSTANDING FINISHES*

**As for new developments in screen process during the past year, I might mention a new high-gloss enamel for screen printing on cardboard paper and very absorbent surfaces, even to the extent of printing on blotters, and yet retaining the high gloss. This material was created especialy for us and I believe it is the only one of its kind on the market. This material has also proved to be satisfactory for applying flock, beads and tinsel to screen process printed designs.—250.**

age, or precipitating. The new improved Wateroil Stains are more fast to light, non-grain-raising and quick drying. They produce clear uniform colors and remain in solution indefinitely without changing or precipitating.—187.

**Flat Lacquer (F-16000)**—Companion to W-10000 Gloss Wood Lacquer. Contains 21% solids at the gun. Same excellent characteristics as W-10000.—107.

**Non-Rubbing Gloss Lacquer (W-1035)**—Produces a varnish-like build. Contains 32% solids at the gun. Will produce a full-bodied finish when one coat is sprayed over a lacquer sanding sealer. Shipped ready for spraying.—108.

**Water White Gloss Lacquer (W-1014-X)**—Designed for Swedish Modern and other pale or blond finishes; is alcohol-resistant and non-yellowing.—109.

**Dulac Marine Lacquer No. 73**—A clear waterproof lacquer for wood products; especially resistant to water and moisture and useful for finishing such products as handles, tennis rackets, skiis and water toys. One thin dip coat seals the pores of the wood and provides a waterproof coating. This same lacquer, or any suitable finish, can be used as the top coat.—114.

**High-Build Clear Synthetic Finish**—For wood; can be rubbed after an overnight drying; is alcohol proof. Fine for table tops and other furniture. Is economical in cost.—166.

**Clear and Colored Wood Handle Lacquer**—Non-patented; this lacquer gives a remarkably tough flexible and shock-proof film for wood handles. It shows a beautiful gloss and depth, combined with low cost. Reduces 50% to 100% for use.—165.

**Bowling Pin Finish** — Consists of one coat of sealer and one coat of finish lacquer. This combination produces a pleasing finish for all types of pins. The coating is extremely hard and tough with long life on alleys.—171.

**Transparent Wood Sealer** — Provides an exceptional base for both clear and colored lacquers. Harder and more flexible than the orthodox lacquer sealer.—170.

**Ski Lacquer or Varnish** — Exceptional finish for skis. Easy to apply and very fast drying. Can recoat in 10 minutes and use skis 30 minutes after last coat.—172.

**Textiles can be made water-repellent, crush-resistant and flame-proof, all because of the persistent research activities of the chemist. One of these contributions is a durable water-repellent which will impart a finish highly resistant to washing and dry-cleaning, and which will maintain its repellancy for the life of the goods. It has a softening effect on fabrics and leaves the pores of the fabric open to permit breathing.**

# SAVE FROM 1 to 3 Operations WITH TRIPLEX Stain

In Triplex Stain the background color penetrates, giving the rich, warm undertone usually obtainable only with a separate toner application. Triplex Stain uniforms and permits high-lighting, at the same time retaining a transparent appearance. It has more body than other stains, making succeeding coats stand out better. Triplex Stain may be sprayed, dipped or brushed. Sealer may be applied over it without waiting as it will not rot lacquer finishes, nor retard the drying of top coats.

Triplex is available in rich shades of all desired colors for close grained woods. It actually saves from one to three operations in toning, sealing, sanding, glazing or wiping. Produces high grade color effects, but makes the finishing operation quicker and more economical.

Mention your color requirements and submit panels or carvings from your regular production for demonstration of Triplex Stain.

## JAMES B. DAY & CO. CHICAGO

**Kem and Opex Venetian Blind Enamels**—A complete line of synthetic and lacquer Venetian blind enamels and primers to fit the conditions of practically every manufacturer. Presented in six basic systems. Features are their durability, speed and attractiveness.

Perfect Seal Undercoater, the most recent addition to the Venetian blind line, holds forth much interest to the manufacturer who needs a combination of fast drying (2 to 3 hours to recoat), perfect sealing and no grain raising. Perfect Seal Undercoater can be used under either the lacquer or synthetic finishing coats and shows them up to best advantage by holding them out to their finest fullness and gloss.—141.

## Rubber, Fabric, Paper

**Coatings for rubber, paper and textiles are always important, and much progress has been made along this line. Here adhesion, flexibility, toughness and color retention are among the chief requirements.**

**Mar-Vel-Film Synthetic Paper Coating**—A high-gloss, moisture-proof coating for labels. Made especially for packages that are wrapped and sealed while hot (200° to 250°F.). Mileage same as regular label varnish ready for use. Film is permanently flexible and is not thermaplastic. Also designed for high speed machine wrapping and packing. Final film is grease-proof and odorless and may be used on any food wrapper where residual odor could not be tolerated.—213.

**Opex Rubber Lacquers**—While no regular line is practical, due to variations in formulas made necessary by differences in pliability or chemical composition of the rubber, the manufacturer's laboratories have completed an exhaustive research and are prepared to recommend materials for every rubber finishing requirement.—151.

**Rubber Lacquer (A)**—One-coat finish; quarterlining. High gloss. Flexible lacquer with good adhesion to quarterlining stock. Exceptionally good finish in one coat. Machine application.—167.

**Rubber Lacquer (B)**—Curing lacquer for silk screen application to rubber goods. Supplied in both clear and colors. Most intricate designs transferred easily to rubber surfaces. Will stand the usual cure, retaining its good adhesion, flexibility and gloss.—168.

**Lacquer Cement for Rubber**—Provides an excellent bond between various rubber surfaces. This cement is strong, flexible and waterproof.—169.

**Non-flammable Coating Lacquer**—A clear finish for use on paper, cellophane, fabric or foil. This coating does not support combustion. It has exceptional gloss, good adhesion and flexibility.—173.

**Metal Finish for Rubber**—A bronze lacquer that gives rubber semi-stiff parts or products, a metallic finish to harmonize with the metals with which they will be used. Finishes include brass, copper, bronze, aluminum, steel, and other metals. The finish is strongly adherent and durable.—112.

**Aridye Colors**—For textile printing and decorating with roller coating machine; adapted to decorate practically any type of cloth. According to the manufacturer, Aridye printing provides exceptional clarity of detail and finer tonal gradations. New and unsual color effects may be achieved with the process.

Aridye colors have no chemical "affinity" for the textile fibers, but rather they effect a mechanical anchorage. When printed, the colors show unusual fastness to light and to washing. Some shades, used for

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**Durable, easy working and clear as an open window, this perfect and transparent metal coater can be economically applied by roller coating. Clear-Cote is absolutely colorless and guaranteed "water white." Even the most delicate details and tints of lithography are unaffected by Clear-Cote. Write to us for complete details.**

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**Rx Prescription Finishes**

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shirtings, withstood 300 fadeometer hours without fading.

Formulations are varied to get the degree of penetration required. With this penetration control, colors may be printed on one surface, on both sides, or in through-and-through designs.—158.

**Label & Carton Lacquers**—Three new products, including a water-white lacquer for almost every label requirement, and two special coatings for resistance to grease and moisture: Water-White Label Lacquer; Greaseal; Moisture-Seal.—150.

## Miscellaneous

**Here are listed items that do not exactly fit into any of the other classifications, yet they are important and very useful to modern industry.**

**Oakite Composition No. 50**—A metal cleaner . . . . an alkaline electro-cleaner that has the tolerance for chromic acid introduced into cleaning solutions from the plating racks, which caused the peeling of the nickel electroplated deposits over brass and steel after cleaning in tanks contaminated with chromic acid. Aside from its good qualities as an electro-cleaner, it contains an inhibitor to offset the deleterious effects of chromic acid contamination. This makes it possible, when this material is used, to have as much as 40 times the normal chromic acid contamination in such solutions, without experiencing peeling of the electro-deposited nickel.—183.

**Oakite Composition No. 40**—A metal cleaner for cleaning palm oil accumulations from tin plate after the tinning operation as a finishing procedure. Previous procedures in such palm oil removal have risked the danger of toxic effects on the workmen or spangling of the tin. There are a number of other finishing operations in the metal industry to which Oakite Composition No. 40

might be applied, which have not been investigated up to this time. While it is not a heavy-duty cleaner in the strict sense of the word, it is being successfully used in a few cases at present to overcome conditions which have not responded to the ordinary type of heavy-duty cleaning material.—184.

**Tile Lacquers**—Unusually successful during the past year . . . . the new line of Opex Tile Lacquers designed for application to Masonite, plywood, pulpboard, metal and composition. The high gloss, rugged, moisture-resistant finish can hardly be distinguished from real tile.—152.

**Foto Grain System**—An uptodate method of artificial wood graining; reproduces, by the photographic silk-screen process, the rare and beautiful grain effects of expensive woods on the surfaces of cheap woods. Being photographic, the reproduction is accurate. No metal plates are needed.

The Foto Grain System provides a full line of ground colors, graining pastes and silk screens. Screens can be made to order with one or more grain designs on each.—136.

**Mar-Vel-Film Blackboard Finish**—Especially made for wood, fiber, wallboard, cardboard, pressed paper, and other materials resembling slate. Finish is washable and durable, and when worn can be easily refinished. —214.

**Fan Blade Coating**—A permanent protective coating used in conjunction with a special primer, which has been thoroughly tested for the last two years or more, and has been employed on large high-speed Sirroco type fans. These fans were used to handle fluorine gases containing considerable moisture, as well as hydrofluoric acid. Previous to using "Kelsanite," nothing could be found that would effectively protect the fans, and they were being replaced every 30 to 60 days. "Fans of 15,000-ft.


**NAZ-DAR**

**Coating Machine**

***Increases Production***

***Lowers Cost***

***Improves Quality***

The NAZ-DAR Coating Machine affords a most effective means of coating sheet and strip material such as: Cardboad, Metal, Wallboad, Composition Board, Fibre Sheets, etc. It can be used to apply lacquers, oil paints, enamels, synthetics, varnishes, etc., depositing a uniform coating of any desired thickness at the rate of 75 lineal feet per minute. There is a NAZ-DAR coating machine to meet individual requirements. Write us!

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capacity were coated with Kelsanite and were put into work early in January 1935 and were only taken out again late in the summer of 1937."

This same Permanent Kelsanite Coating is useful for protection inside sandblast booths of sheet metal construction. It is used to take up the backbound action from the sand as it flies off products that are sandblasted.—182.

**Speedy Wax**—A new liquid preparation which cleans and waxes a car finish in one operation.—194.

**Wood Heel Lacquer**—A high-solids non-patent type pyroxylin enamel which has proved to be a boon to the wood heel trade in opening up new markets heretofore closed to practically anything but heels veneered with celluloid sheeting or genuine leather. Designed for spray or dip application, the unique appearance of one or two coats of this lacquer is attributable in part to a filler especially designed for this service. The filler, offered by the same manufacturer, is applied by spraying and requires no sanding prior to receiving the lacquer top coat. The finished heel is not easily distinguished from real patent leather. Black has been the prevailing color called for.—201.

**Quick-Bake Synthetic Enamels**—Reduces four to one, and has short baking schedules; 325°F. for 10 or 15 minutes, 275°F. for ½ hour, or 225° to 250°F. for one hour; has exceptional resistance to grease, oil, alkali and acids, and can be used for metal cabinet work, washing machines and ironers, and work where color retention is important.—226.

**Perspiration-Proof Lacquer**, No. 1460—Reduces equal parts with lacquer thinner. It is almost water white in color, sets up fast, giving print-proof film, and is ideal for all types of metal work including brass, copper, silver, steel, cadmium, nickel and silver. On brass work, it gives a clear brilliant film, free from greening. This material has unusual resistance to perspiration, salt spray and outdoor exposure, and has excellent adhesion, toughness and durability.—227.

**Oil Enamels** (Dipping, Baking)—Reduce three and two with naphtha. They are cheap in price, and with reduction give low unit cost. These materials can be used on all types of metal cabinets and metal chairs, giving a tough, high gloss, mar-proof finish. Bake at 275°F. for one hour. —228.

**Bakinglacs**—Air dry initially like lacquers and then bake for one hour at 250°F. Reduce three and two with lacquer thinner. They have a high gloss and take top coats without lifting. Can be had in clear, colors and metallics including Old English and Statuary Bronze.—225.

---

## What New Wrinkle, Inc., Means

In the true spirit of service New Wrinkle, Inc., Dayton, Ohio, was founded. Its aims and policies are dedicated to bringing about a greater appreciation of wrinkle finishes in all of their phases, to broaden their scope as a logical and colorful application to 1001 products beyond their present use, to provide each source of supply operating under license with the necessary incentive to preserve quality and render the service necessary with a customer to assure uniform results.

For these purposes, New Wrinkle, Inc., has brought together all available patents on wrinkle finishes under one central head and through the establishing of licensees at all strategic points throughout the country to permit immediate expert advice on wrinkle finish application and prompt delivery, it is placing at the disposal of the product finisher a nationwide organization well equipped to help him solve wrinkle finishing problems.

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Uniform wrinkle, small.

# WRINKLE FINISH IN ANY COLOR

Wrinkle finishes are no longer confined to dark shades. With the new

**M & W DUART WRINKLE ENAMELS**

any color can be secured, including whites and light pastels.

In addition, these new enamels bake hard and wear-resistant with a short baking schedule. Uniform wrinkle without "shiners" or "fish-eyes."

Light body permits easy spraying. The patterns can be varied from a very fine and uniform to a very coarse and heavy structure. One coat is all that is needed.

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LACQUERS PIONEERS IN PROTECTION ENAMELS

## Finishing Birch Garment Hangers

We are manufacturing a garment hanger (trouser or skirt hanger) that has two curved hardwood pieces which can be clamped tightly together or opened by operation of a special bent wire hook which supports them. Each wood piece is 5/16-in. thick, ⅞-in. wide, 10-in. long and shaped as shown in the accompanying drawing.

How would you finish these birch parts to give them an attractive clear natural finish that

Side and edge views of piece.

will be fairly durable but economical? We understand that in many cases, a glossy finish is secured by tumbling the wooden parts on each other until they are smooth; then tumbling them again with a special sort of wax. Can you tell us what this wax is and where it can be obtained? Some of these sticks we wish to dip in a sealer and then in a gloss coat of clear varnish or lacquer. Do you think our cost will be lower if we use varnish or if we use lacquer?

We believe there is still another way of finishing these sticks called "tumble finishing." How is this finish secured and where does one get the materials.—U. Mfg. Co.

---

These parts can be given a single-coat dip finish in clear lacquer, the thickness of lacquer film being capable of adjustment by varying the viscosity of the lacquer. Drive a small sharp nail, pin or tack into one end for suspension. An upholsterer's gimp tack, stuck in with a magnetic hammer would make this a very rapid operation. Suspend the pieces on rods or racks over a tank of lacquer of sufficient depth to cover the pieces when they are dipped in vertical position.

Immerse the pieces, singly or in multiple by lowering the rack, and remove them immediately. Allow them to hang with their lower ends about ¼-in. above the surface of the lacquer until the liquid stops dripping—until the drop on the end of the piece becomes stationary. Raise the pieces and touch the wet bead with a rag or soft brush. The film on the end of the piece will close and leave a smooth surface.

It is advisable to have a false lid on the lacquer tank, if possible, so the tank will be closed while the pieces are draining, to avoid excess evaporation. The vapor rising from the surface of the lacquer is an important factor in the flow and the freedom from bead or "tip." It might be practicable to have shallow drain trays (like a shallow tank) with a small amount of thinner in the bottom, for draining the pieces, so that the lacquer tank will not be tied up during the draining process.

If a smoother more polished finish than that obtainable by dip-

## Questions Answers

*for*

the INDUSTRIAL and TECHNICAL trades

*Write Us!*

**OXFORD VARNISH CORP.**

**DETROIT, MICHIGAN**

**In the line of maintenance finishes, a vast amount of interest has been exhibited in the new alkyd type of whites where original color and color retention are far superior to that of anything seen previously.**

ping is desired, then I suggest that after the lacquer coating is thoroughly dry (in not less than six hours after coating) the pieces can be tumble-polished. They may be rolled in either an open-end type of polishing tumbler or in a closed tumbling barrel. Fill the barrel about one-third full and add some polishing agent such as leather scraps or bits of felt. Also, add some lumps of hard wax, such as carnauba, to impart a high luster.

While perhaps these pieces could be coated entirely by tumbling, I am inclined to believe that their concave or bent shape would occasion difficulty. Either a dip or a tumble finish may be produced with either varnish or lacquer—using, of course, a material specially formulated for the purpose. In general, the lacquer finish will be harder and quicker drying, though it is often possible to get more "mileage" for the investment per gallon with varnish.

I believe that a single dip coat of lacquer, followed by a brief tumble polish, would be the most practical and economical finish for these pieces.

Tumble finishing would eliminate individual handling of the pieces, but would probably require considerable experimentation before satisfactory results could be obtained. Since the procedure could not be established with less than a full charge of the barrel each time, it is obvious that a great many pieces might be utilized in perfecting the process. Tumbling processes will not be taken up here, as they merit considerable discussion, but several good articles on the subject may be found in back issues of INDUSTRIAL FINISHING.

I hope that what I have stated here may be of some assistance in solving your problem, but will gladly discuss the matter further in the event that the recommended processes do not produce suitable results.—W. T. SMITH.

---

In tumbling you would have to use a rather slow-drying material —some kind of varnish that will air-dry. You can get a better job by using some small pieces of turnings to roll with the sticks. Add a little finishing material at a time and let the barrel run until this is dry. When the wood is filled add a little more and let it run just long enough to cover the pieces—say two or three minutes; then let them air-dry if you have no way of baking them. Wax for polishing these wood pieces can be bought from most any place handling such material. The wax can be tumbled in the same way.—F. H. MCLAIN.

## White Pickled Finish on Birch

We would appreciate it if you could tell us of the successful methods used in getting white pickled finishes on maple, birch and cherry. The effect we are after is to maintain the natural color and grain of the wood through a hue of white pigmentation which should be uneven and,

therefore, in some parts whiter than in others.

We have succeeded in getting the effect by spreading a mixture of chalk powder and water on the wood and, after letting it dry, wiping the white cast lightly off with horsehair. But, naturally, this can never be a usable or permanent finish because the white disappears as soon as any material, such as water white clear lacquer or shellac, is sprayed over it.

Bleaching will not give the desired effect, as we do not want to take the natural color out of the wood but want to overcast it with a definite uneven white pigmentation, to get somewhere near the effect that is so often produced on pine.

We realize the difficulties, though, as pine provides the low soft and high hard grain which, if covered with a white pigmentation and wiped off when dry, provide a sufficient hold for the left-over pigment. Our problem is to achieve a similar effect without the advantages pine has.—F. S. Co.

---

Maple, birch and cherry, being close-grained fine-textured woods, it is necessary to blend the white on the surface to obtain a finish that is not "smeary" or which will not obscure the grain. Here are two formulas that will produce clean-cut finishes:

**No. 1**

| | |
|---|---|
| Zinc oxide ground in oil | 20-oz. |
| Linseed oil (boiled) | 1 pint |
| Cobalt drier | 1-oz. |
| Gasoline or benzine | 1 gallon |

Mix thoroughly. Brush or spray a thin coat over the surface. Wipe off the excess with tow or rags. Now is the time to leave the amount of white on the surface that will appear in the final finish. Before the coating becomes too tacky, a soft brush should be used to blend the remainder to a uniform surface. More or less zinc oxide may be used, according to the opacity desired. Finish with lacquer or shellac.

The No. 2 method is more expensive but makes a much better finish. The wood is sandblasted to produce pores equal to walnut or oak. Zinc oxide is employed to color natural filler that is used in the consistency necessary to fill ordinary porous woods. Finish the usual way.—F. R. BOYNTON.

---

The nature of your difficulty here is quite apparent, as the close texture of these woods makes the retention of any perceptible amount of pigment quite difficult. I believe you were definitely on the right track in your use of the water and chalk mixture you men-

---

**Zinc possesses physical properties that make it thoroughly satisfactory for many purposes but, until recently, its usefulness was restricted because of its unattractive appearance on even indoor exposure. By the use of special lacquers, it is now possible to finish zinc die casting and stampings in any tone of copper, brass, or bronze and, in consequence, zinc is beginning to displace these more expensive metals in the manufacture of a variety of products. How far this particular development can go is not clear at present, but it may have far-reaching consequences.**

tion, even though it did not give you the desired result. Following is a suggested method I have seen used satisfactorily in applying pigment glazes to these hard close-textured woods:

After sanding the surfaces with the usual care, place the piece in a spray booth and fog it with water, holding the gun perhaps 3 or 4-ft. from the surface and using all available pressure in order to apply a fine fog or mist of water. This treatment will raise the grain but not sufficiently to undo your careful sanding. The "grain raising" on these hardwoods is in the form of very fine "whiskers." The size and degree of lifting of the surface fibers will depend on whether or not the wood was glue sized or sponged before the final sanding.

If it is not convenient to fog on the water with a spray gun, it may be applied with a sponge or brush, but the moisture distribution will not be as uniform nor will the operation be as rapid as can be accomplished by spraying.

After the water treatment, allow the surfaces to dry for not less than an hour in a warm room. Then proceed with your glazing operation, using the same conventional glaze you would use on an open-pore wood. The raised grain will offer a surprising retention for the pigment, although the lifted fibers will not interfere with subsequent coats, especially if a sanding undercoat is used.

If the "grain raising" by this method seems to be excessive, cut back the water with alcohol, increasing the amount of alcohol until the desired effect is obtained. A wetting with straight alcohol, especially methyl or "wood" alcohol, will raise the grain a litttle, due to its affinity for atmospheric moisture. The addition of alcohol to the water will, of course, decrease the drying time in proportion to its use.

This water fogging will also tend to uniform adjacent pieces of different color by regulating the receptiveness of the surface to pigment wiping. I have known this method to be used as a uniforming expedient with pigment stains on maple, where all other methods had failed to give a consistent color on variegated glued-up stock.

Another possibility for your purpose is the incorporation of 5% to 10% of caustic soda in the water. The caustic attacks the natural deposits in the pores of the wood with the effect of opening them to their fullest extent. This is probably not as practical as the foregoing suggestion, because caustic will discolor the wood to some extent and, being a corrosive mixture, it is not pleasant to work with. It is sometimes used in the manner described, for opening the pores of such woods as walnut when making wood graining plates for transferring wood grain to other surfaces. I mention it merely as a possibility with which you might wish to experiment some time.

The water fogging method may seem a bit fantastic, but it is one that I have seen used and which I have used with complete success.

The exact nature of the final sanding on the raw wood has a great deal to do with the subsequent behavior of pigment wiping preparations. Try using a coarser grade of paper for the final sanding, taking a little extra care to avoid scratching. Smooth scratch-free sanding depends more upon

# WOOD LACQUERS

There are no spectacular developments in wood lacquers. There is, however, the accumulation of years of testing and steady improvement resulting in our present line of gloss and flat lacquers developed for the wood working industries.

Where the maximum dollar value in solids and smooth-flowing solvents is required; where perfected resistance to cold-checking, abrasion, moisture, printing, beverages and light are desired, we shall be more than glad to submit samples for any desired test.

Within the comparatively narrow price range for this type of lacquer, we feel we can and do supply a material unsurpassed for its specific purpose.

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the skill of the workman than upon the grade of sandpaper used. A skillful sander can sand a piece smoother with No. 3/0 or 4/0 sandpaper than a less experienced man can with No. 7/0. The rule is to use as coarse a sandpaper as is possible and still obtain the required degree of smoothness. The coarser the abrasive, the better the "tooth" for the pigment.

By all means try the water fogging method. The varying degree of grain raising on the flake and softer portions of the wood will, I'm sure, give you the result you desire. Try to get a finely divided pigment glaze for this work. If you can persuade your supplier to give you a pebble-mill grind, so much the better. The finer the grind, the better.—W. T. SMITH.

## To Dissolve Acetate Scrap

In reference to a question under the above title, in December issue of INDUSTRIAL FINISHING (page 48) relative to the best way to dissolve acetate scrap, I have found acetone to be the best solvent for the purpose. I have also noted that warm acetone dissolves the acetate scrap much faster than if used cold; the warmer the acetone is used, the quicker the acetate scrap dissolves. Caution should be used, however, to avoid exposing the acetone to an open flame, but the work should be done in a hot room.

Since acetate scrap has a tendency to settle to the bottom of the container, I have found it a good plan to up-end the container at least twice a day. In this way the acetone has a better chance to attack all of the scrap acetate.

After the acetate scrap has been dissolved to a jelly mass, then a mechanical mixer can be used to good advantage. Some companies experience considerable difficulty in dissolving acetate scrap, due to the fact that they do not use enough acetone in proportion to the amount of acetate scrap. The consequence is that the acetone dissolves and holds all that it is capable of. Then there remains acetate scrap that is not dissolved, simply because the acetone has reached the saturation point and is incapable of dissolving more. In such cases it is necessary to add more acetone or, better still, strain off the dissolved acetate and then place the undissolved portion back in the container and add fresh acetone.

I see no reason why one should wait until the complete mass has been dissolved, because the difference in methods by which the various acetate scraps have been formulated, and also their age, will determine the length of time required to dissolve them. Some acetates require from two to three times longer than others to dissolve. I use the part that has been dissolved and allow the remainder to stand until completely dissolved, adding acetone and scrap acetate as needed.—H. H. GLINKE.

**In the finishing of automobiles on regular production lines, more interest is shown in the new alkyd types each year. Ford was first in employing this class, and for the lower priced cars it was found to be satisfactory. Its durability characteristics are at least equal to that of the well known lacquer system, but the richness of finish of lacquer has not been exactly duplicated.**

## Letters From Readers

*(Continued from page 8)*

of the Industrial Tape Corp., and the Minnesota Mining & Mfg. Co. in the same issue of INDUSTRIAL FINISHING, and therefore, we are contacting these two concerns direct.—L. B. & S., London, England.

These are the principal manufacturers of quality industrial masking tape.—ED.

### Striping Tool

Will you please tell us where we can get a device used for striping autos?—R. A. Co. (The Key to Better Painting).

Several good striping tools are on the market. We are sending you the names and addresses of some concerns that make and sell them.—ED.

### No Charge

Do you make announcements on new products in your publication, gratis, or is there a charge to it?—A. H. Co. (Electrical Heating Appliances).

No charge is made for what is printed as editorial contents.—ED.

### Veneer Checks

In your December issue of INDUSTRIAL FINISHING, pages 61 and 62, you advise the customer about a material to prevent long hair line cracks in cedar veneer. We are interested in a similar material for eliminating these small checks in mahogany veneer, which have shown up for the first time in our product this year. — L. N. Co. ("World's Largest Mfrs. of Band Instruments").

### Bleaching Material

I have before me the October issue of INDUSTRIAL FINISHING and notice, on page 55, you say that several concerns are prepared to supply satisfactory bleaching compounds. We would like to know of some of these concerns.

We have a rose wood sofa which has a beautiful light wood on most of the frame but the center piece in the back is very black. Our customer insists that this can be bleached


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*Paasche Airbrush Co.*

1917 DIVERSEY PARKWAY

CHICAGO

to match the rest of the frame. Any suggestions you can offer will be appreciated.—W. Mfg. Co.

The information has been supplied. —ED.

## Wood Fillers

We have just read an article in the November issue of INDUSTRIAL FINISHING by Mr. O. R. Myers on "How to Use Wood Fillers." This article is very interesting to us as we have, in the past, tried several of the supposedly quick-drying fillers and have found them to be pretty much the "bunk."

We are greatly interested in the use of a real or good quick-drying filler and have been wondering if we could get in touch with Mr. Myers and find out whose material he is using.—C. A. S. (Occasional Furniture).

## Paint Grinding

We are, since some years ago, subscribing for INDUSTRIAL FINISHING, and have found this publication very responsible and of a good help to us in solving of technical problems. Especially we will mention the section "Letters from Readers," where problems can be propounded by the readers and answered. We now want to have the following question answered:

We use for synthetic white oven enamels, Synthetic Resin White Paste No. 54, manufactured by Binney & Smith Co., which gives an excellent cover and high gloss. We want information about the grinding proceeding, dispersion agents and machinery for the manufacture of such finely-ground pastes.—A. W. B., Stockholm, Sweden.

## Sheet Celluloid

In the June 1938 issue of INDUSTRIAL FINISHING, pages 25 & 26, the article, "Covering Surfaces with a Sheet Celluloid Finish," by W. C. Mingto, is of interest to us. We are manufacturers of wood kitchen stools and believe this type of finish would be highly desirable for the heads of our stools.

Will you please advise us the names of the manufacturers of this sheet celluloid, in a Mother of Pearl design, requesting them to send us all information on this subject?—D. D. Co. (Ladders, Woodenware).

## Ply Panel Repair

I have been a reader of INDUSTRIAL FINISHING for some time and, due to the many articles you publish that nearly parallels many of our problems, I was hoping that some one of your many customers might have what we are looking for.

We manufacture Douglas fir plywood and one of our products is a phenol-resin-bonded panel 100% waterproof and boilproof; in fact, it is bonded permanently. Our problem arises in patching any defect that might be in the face after pressing. We have suitable types of patches but cannot find a suitable bonding material with which to cement them in—one that will be as resistant to all hazards as to the phenol-resin-bonded core of the panel.

It has not been practical to use the same bonding material on the patches as is used on the panel for several reasons. It requires too much heat and time principally. The heat applied on the patch damages the face of the panel after being in the hot press quite easily. A second coating of resin applied to the patch

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does not always bond to the cured resin of the panel core, even though heat is applied.

An ideal product for us would be some type of bonding material that would set naturally, or by applying a chemical or mild heat. It would be a big advantage to have a light or neutral colored material. This is quite a large order, but I hope some of your customers can fill the bill.—L. R.

Can some one answer this question? Please write us any suggestions or comments that may help this reader.—ED.

## Finishing Radio Cabinets

We understand that you ran a series of four articles in the October, November, December 1936 and January 1937 issues of INDUSTRIAL FINISHING. These articles were written by Mr. W. T. Smith and the subject was "Finishing Radio Cabinets." We shall appreciate your sending us a copy of these articles.—N. N. Co. (Lacquers, Varnishes, Synthetic Resins).

There were five articles in the series, and copies of them have been in great demand.—ED.

## Stain Remover

On page 7 of the December issue of INDUSTRIAL FINISHING, you published a letter concerning the use of a "stain remover." Will you please send us the name and address of the firm that manufactures the article such as is described on page 7?—E. P. Co. (Piano Mfr.).

## From Argentine

We have a copy from the INDUSTRIAL FINISHING of November 1931 and are interested in receiving it regularly . . . . We are in the metal bed business and therefore are very much interested in paints, enamels, varnishes, graining, etc. If there is any number of INDUSTRIAL FINISHING especially dedicated to this matter, we will appreciate it if you send it to us. We will gladly pay for it.—A. O. F., Buenos Aires.

## Test Sheets

Can you furnish us the name of a supplier of sheets to test the hiding

**ATTENTION**

**METAL FINISHERS**

**A high gloss synthetic metallic finish in one coat that produces an excellent two coat appearance.**

***Available in Most Bronze Shades***

***Write Today for Sample***

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*bring out the*
QUALITY *you*
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ELECTROTYPE COMPANY
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power of a pigmented lacquer or enamel? We are interested in receiving your publication INDUSTRIAL FINISHING, as your articles and advertisers are "right up our alley."—H. O. Mfg. Co. (All Lacquer Transfers).

## Furniture Hardware

We have a writing desk with a sliding shelf. To protect the finish on the shelf when it is pulled in and out, we want some metal channels, one set to fit in the desk and the other set to be put on the sides of the shelf to slide into the channels fitted in the desk. If you could give us information as to a source of supply we would appreciate it very much.—S. & C. (Furniture).

## New Book About Toxicity of Industrial Solvents

A new book of 388 pages 5½x8½-in., bound in dark blue cloth and lettered in gold, reveals the results of extensive research work on the toxicity of industrial organic solvents. The contents, conveniently classified under eight chapter heads, were compiled by Ethel Browning, M. D. The book is published by Chemical Publishing Co., Inc., New York, N. Y., and sells for $3.50.

## Sells Industrial Cyanides

The Lea Mfg. Co., of Waterbury, Conn., has recently become a distributor for the American Cyanamid & Chemical Corporation in the sale of industrial cyanides for use in the electroplating industry.

## Rowe Paint Co. Appoints Representative

Mr. C. L. Rowe, President of the Rowe Paint Co., Long Island City, N. Y., announces the appointment of Mr. H. G. Sanborn, Jr., to cover the industrial trade in the state of Connecticut. Mr. Sanborn, who is very well known in Connecticut, will make his headquarters in New Haven, Conn.

Walker's

CLEAR HARDWARE LACQUER

No. 702

Recommended for outdoor durability, having extreme non-greening qualities, as well as perspiration resistance.

H. V. WALKER CO., Elizabeth, N. J.

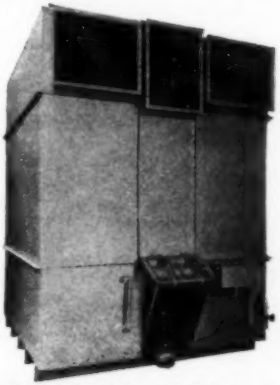
"FINISHES TO FIT THE PRODUCT"

New England Warehouse, Brown, Dean & Co., Providence, R. I.

## Hydro-Foam Dust Collector

The new Mahon Hydro-Foam dust collector provides an efficient and economical means of dust control. This device, employing an entirely new principle of dust removal and collection, has no cloth screens to remove or replace, no water pumps to wear out, no nozzles or jets to replace or keep in alignment; in fact, the only moving mechanism in the entire system is the suction exhaust fan which is located on the outlet side and handles only clean air.

The system is entirely pneumatic. Its liquid solution is maintained at the proper level automatically. The Hydro-Foam eliminating process is achieved through the action of the air on the surface of the solution and in the Hydro-Foam chambers. Dust is removed from the air and retained in the collector in the form



**Standard unit, Mahon Hydro-Foam dust collector for industrial plants.**

of a sludge, which can be removed either manually, through clean-out doors, or automatically by means of an inclined screw conveyor.

Mahon Hydro-Foam units are manufactured in standard sizes of various capacities and can be used singly or in multiple to meet any industrial requirement. Dust collecting systems of this type are economical to install and economical to operate.

# *New...*

# MATERIALS SUPPLIES EQUIPMENT

## Eye Comfort.... Lighting Unit

A new lighting reflector specifically designed to utilize the indirect lighting characteristics of the silvered bowl mazda lamp, and thus provide a greater degree of eye comfort at relatively low cost, has just been placed on the market by the Benjamin Electric Mfg. Co., Des Plaines, Ill.

Known as the Benjamin RLM "Silvered Bowl" Diffuser, the new unit makes more effective use of the silvered bowl lamp by a distinctive innovation in diffuser design. Through the proper combination of porcelain enamel and Alzak aluminum reflecting surfaces and the use of the silvered bowl lamp, a softer, better diffused illumination is secured without sacrificing high lighting efficiency.

## Spray Booth Coating

A new spray-booth compound, which facilitates cleaning of spray booths and, therefore, helps to reduce both the fire hazard and the marring of finished work by dirt spots, has been developed by Maas & Waldstein Co., makers of industrial finishes, Newark, N. J.

To comply with the regulations of the National Board of Fire Underwriters and to maintain high standards of safety, workmanship, and housekeeping, the flammable and unsightly residues that collect in a spray booth must be frequently cleaned out.

The new M & W spray-booth compound makes the cleaning of a spray booth a simple matter. All exposed surfaces of the booth are covered with the compound, which is a non-hardening, but non-oily, paste, applied with a brush. The residues from sprayed lacquer, paint or enamel are deposited on the compound; and, when it is desired to clean the booth, the compound and the residues are easily and completely removed with a putty knife, without using a flammable solvent.

## Air-Gun Duster

To meet the demand for a dependable low-cost air gun for blowing dust from surfaces, the gun shown here was designed and placed on the market by the Crown Spray Gun Mfg. Co., 1218 Venice Blvd., Los Angeles, Calif. It is ruggedly constructed to fit comfortably in the palm of the hand, and the air valve button

Handy for blowing away dust.

is pinch-proof. The valve seat is made of Thiokol, providing long leak-proof life. A removable part in the nozzle adapts it to conform with the output of the air compressor. It is finished in white nickel plate; comes with ¼-in. air inlet thread.

## "Electro" Portable Sander; Rubber; Polisher

A portable machine that plugs into an electric light socket (110-volt D.C. or A.C.) and which gives a reciprocating instead of rotary movement for sanding, rubbing and polishing, is offered by the Chicago Tool & Kit

Two size models are available.

Mfg. Co., 116 E. 33rd St., Chicago, Ill. It is called "Electro," and is available in two models, one weighing 7-lbs. and the other 11½-lbs. The smaller machine is delicate enough to sand painted finishes on canvas without raising the nap. The larger machine is sufficiently powerful to sand down the hull of a boat, to "feather edge" automobile body and fender repairs, or to sand down first coats on various wood and metal surfaces. The machines are versatile and may be used for various operations on wood, metal, porcelain, canvas, leather and glass. They are as satisfactory for rubbing and polishing as they are for sanding.

"Electro" has a unique construction employing the principle of an eccentric, but is so controlled as to move in a straight line forward and back. This reciprocating motion is so even that little or no pressure is required by the operator.

*The*

# VERY LATEST

*Finishes*

**ANTIQUE MAHOGANY**

**ORIENTAL WOOD FINISHES**

These exceptionally beautiful finishes, but recently developed in our laboratories, represent the very latest colors in Antique Mahogany Effects and Oriental Wood Finishes.

They are new, distinctive, and of rare charm and beauty and have already been adopted by some of the leading manufacturers.

Complete information for obtaining these handsome new finishes promptly sent on request.

WRITE NOW!

**THE GILBERT SPRUANCE CO.**

***Specialists in the manufacture of Wood Finishing Products***

**RICHMOND AND TIOGA STREETS**

**PHILADELPHIA, PA.**

At the point of attachment of the reciprocating mechanism there is sufficient "give" that the machine will operate even though the motor is held slightly angled. The base is covered with sponge rubber so that when the sandpaper or cloth is attached the flexibility is further accented. It will operate on curved or uneven surfaces as well as on flat ones.

## Handles Metal Sheets Without Fingermarking

To lift clean smoothly polished or finished metal sheets without leaving traces of finger perspiration or smudge marks, a device has been developed whereby these sheets can be picked up with a rubber vacuum cup lifter. These "Eveready Lifters" provide the answer for manufacturers who are seeking a faster and safer method of handling sheet metals, sheet glass—in fact any product that has a smooth, non-porous surface. They are of patented design, incorporating giant rubber vacuum cups which are provided with automatic releases that work with the flick of a finger.

All parts are sturdily constructed and fully tested. The vacuum cups, which can be replaced in less than 5 minutes without the use of special tools, are the only parts subjected to wear.

The "Eveready Lifter" in use.

Eveready Lifters are available in 5 models, two for light work, two for medium work and one for heavy lifting. They are products of the Bastian-Blessing Co., 242 E. Ontario St., Chicago, Ill.

## Viscosity Test Tubes

An 8-page bulletin illustrating and describing modern viscosity tubes and their use in making tests, along with illustrations and data about other laboratory supplies, has just been published by R. P. Cargille, 118 Liberty St., New York, N. Y. Copies may be obtained by writing the above named concern.

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AND CLEANER THAN EVER!

MAKING— A More Beautiful Finish. A More Durable Finish.

THE MEARL CORPORATION

153 WAVERLY PLACE NEW YORK

MEARLMAID PEARL ESSENCE

# Air-Motored Mixer

The Eclipse Air Brush Corp., 390 Park Ave., Newark, N. J., has added another mixer to its line of Pneumix air-motored agitators. The new mixer illustrated here, is known as Type D. The air motor drives through gears having a ratio of 40 to 1 for greater power in handling heavy materials. The motor and gear assembly are detachably mounted on a spider-type platform, adjustable to diameters of from 12 to 26-in., to fit anything from a 5-gallon can to a 55-gallon drum.

The standard shaft on the Type D Pneumix is from 12 to 27-in. long, and of chromium-plated steel. Propeller blades are bronze, also chromium-plated. Stainless steel or nickel can be supplied also. Propellers are supplied in two types: 8-in., 6-bladed turbo-type, or 10-in., 2-bladed airplane type.

**Type D air-motored mixer.**

All the regular Pneumix features are retained in the Type D. It is absolutely safe in operation, free from any fire hazard and can be operated at almost any speed obtainable through air intake regulation. Quiet operation is assured by the muffler in the exhaust line.

**"MAGIC" TACK RAGS**
**IMPROVE YOUR FINISH 100%**

MAGIC TACK RAGS remove specks, lint and sand particles—bring out that deep, smooth luster, produce a faultless surface for white or colored finish. Why use "home made" tack rags when you can buy MAGIC TACK RAGS at trifling cost! They are tackier, do not dry—are dust-proof and spontaneous combustion proof. Packed in dozen and gross lots or more. Made only by the

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4036-40 Lagrange Street,
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If your dealer does not carry Magic Tack Rags, write us for sample.

**Furniture Finishing**

A thoroughly practical book in five parts.
I. Period Furniture and modern styles.
II. Furniture Decoration (Antique Shading, Glazing, etc.)
III. Furniture Finishing (Woods, Finishing Room Tools, Equipment, Materials, etc.)
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222 E. Ohio St. Indianapolis, Ind.

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# EDITORIAL

## Air Conditioning Industry Has Bright Future

Real air conditioning apparatus, which includes equipment for regulating four important things (temperatures, humidity, circulation, cleanliness) in connection with the air in a room or building, has a remarkably attractive future. It is headed decidedly upward in number of installations and volume of sales, and will probably continue this way for many years to come. At present, commercial and industrial installations outnumber home installations more than 2 to 1, and this ratio will probably continue for some time.

Air conditioning interests us for two important reasons. In the first place we need it in all of our finishing rooms. We hear about some industries requiring air conditioning in some of their particular manufacturing process or operations, but probably none of them need it more than the product finishing departments in industry. Here it is certainly important that the air have a uniformly controlled temperature, humidity and circulation, and that all entering air be filtered clean. This helps to make possible uniformity and cleanliness in the finishing operations, and it effects substantial economies in labor by saving much sanding, tack-ragging, wiping and dust-blowing.

The second reason why air conditioning's progress interests us is the fact that it calls for the production of more manufactured goods, much of which will require coatings of finishing material for producing lasting durability and attractive decorative effects. In other words, as the manufacture and sale of air conditioning equipment increases, more finishing materials will be required and more equipment will be needed for applying them.

## Accurate Stain Mixes In Wood Finishing

A man who has had wide experience as foreman finisher, salesman, and demonstrator reminds us of some factors in wood-finishing that are of vital importance to the final appearance and salability of wood furniture, cabinets and fixture work. He is real-

ly writing about foreman finishers—those who are above average in knowledge, skill and care, and those who are more or less indifferent and careless of results . . . men worth more and men worth less to their employers. He says:

"The foreman finisher may be a first class color man in the formulating and mixing of water stains; he may know the effects on various types of wood, and their reactions; he may be competent in the use of non-grain-raising stains and mass production. But let me state right here, he must follow the mixture of these stains accurately in making up his formulas and once a formula is adopted as satifactory, he must adhere to it every time thereafter. He must carefully check future shipments of these colors to make sure that they are uniform. A slight variation in any one of them, especially in the blacks, will throw things off color. A master sample, put up in a glass container, is probably the most practical guide to follow.

"Regardless of how expert a finisher is, if he becomes the least bit careless with his formulas and falls into the bad habit of guessing at the mixes without following them closely, his finishes will be off color. Various pieces in a suite or ensemble can not be matched complete for shipment. Some pieces may have to be cleaned off and refinished before leaving the factory. This is very costly to the manufacturer, and if too much of it takes place over a considerable length of time it will eventually put the company out of business—a failure due to the foreman finisher.

"The only way to overcome these abuses, which are many in various finishing rooms over the country, is to make sure you have a first class man as foreman finisher. Then, Mr. Executive, be big enough to have confidence in him. A man capable of doing the job satisfactorily is surely worth the price he asks. He is profitable to the company not only because of his more efficient management of production, but in the quality and appearance of goods turned out—which is really what makes or ruins the company's business."

## Real Solvent Recovery Effects New Economies

The practice of recovering clean usable solvents from dirty thinners has increased noticeably within the past year. This is due to a number of causes, the most important being the increased facilities of the solvent recovery services and the improvement in procedure.

For a number of years many large manufacturers have had their dirty thinners cleaned. Other large manufacturers have not taken advantage of this economy mainly because they did not know such services were available.

Manufacturers whose accumulation of waste solvents, sludge and dirty thinners were not in large quantities, have been unable to have their solvents recovered on an economical basis until recently.

Now they also can avail themselves of the services of the solvent recovery companies, due to the fact that improvement in methods and new equipment have made possible the economic recovery of solvents in quantities of 100 gallons or more.

Since the recovered solvents are just as effective for many purposes as new thinners and since the cost of having the solvents reclaimed by one of the recovery services is only a fraction of the cost of new thinners, it can be readily seen that there is a real economy to be made in finishing department operation by having the solvent recovered from dirty waste and wash thinners.

## Beauty of Wood Grain Revealed by New Finishes

One of our good friends, a manufacturer of woodfinishing materials, has just written us some of his impressions and observations, after returning from an extensive business trip. He says:

"It is always my custom, when traveling, to visit the leading stores and discuss with buyers, their opinions of style and color trends. . . .

"I could not help noticing the many new and beautiful finishes being used on traditional furniture. Designers and finishers seem to have collaborated in developing an eye appeal, which the older types of finish did not possess. For example, it had, in the past, seemed essential that to be beautiful, mahogany must be dull, somber and dark. Naturally, as a result, the exceptional beauty of natural color, grain and figure of this beautiful wood was almost totally lost.

"In the newer finish and color trends, there has been a definite turn toward lighter and brighter shades which accentuate the natural beauty of the wood. Along these lines we find many such new and beautiful finishes as Amber, Sandtone, Victorian, English, Georgian, New Sheraton and French Provincial, in addition to the modern group of bleached or 'treated' finishes which include the Harvest, Wheat, Swedish, etc.

"Swedish Modern, Wheat, Semi-Bleached and a wide variety of extremely light colors are still very good for the current group of Swedish, Peasant, or Modern lines, which apparently will remain in favor for some time to come. Occasional pieces of these lighter woods do add a touch of the modern to any room, without clashing."

These trends in furniture finishes are also noticeable in the latest finishes used on the interiors, fixtures and showcases of fine retail stores. The blond finishes are in line with the modern trend toward better illumination and greater cleanliness. They help to reflect and diffuse the light, thereby eliminating dark corners and soiled unsanitary surfaces.

## More Bake Finishing

A trend toward an increased use of bake finishing materials is probably under way, if the large number of bake finishes listed in this year's Review of New and Improved Finishing Materials has any significance. The merits of many of the new bake finishes offered, are such that these materials will be in greater demand as protective coatings on a large variety of manufactured products. Some of the new materials make possible shorter baking schedules and higher temperatures, with variations permissible in the baking temperatures.

In this connection, a finish man-

ufacturer's representative who is well acquainted with both the old and the new bake finishes says:

"It is surprising to know how many ovens have inadequate control of temperatures. This means that finishes are very often underbaked or over-baked. Urea-formaldehyde-resin enamels are usually baked at temperatures high enough that slight variation up or down has little effect on the finish. Even white enamels do not discolor when the heat runs up to 20° or 40° higher than the average. Generally, white urea enamels are baked at 250° to 350°F. At the higher temperatures only 10 or 15 minutes are needed to make the finish hard and tough. A typical baking schedule for the older type bake finishes is 275°F. for one hour—and some of these older type finishes are quite sensitive to heat variations in baking."

Fortunately for those concerns which contemplate the installation of new baking equipment, modern ovens and oven accessories are vastly improved in both efficiency and safety. The newer types of equipment deserve careful investigation because they offer substantial savings in space and cost of operation.

## Cleaning Gun Orifices

It is important to examine spray guns occasionally to see whether any deposit of hard coating material has built up around the orifice. If or when this occurs, the spray stream becomes distorted to some extent and you do not get a satisfactory spraying job. Particular care should be exercised in cleaning away any accumulated deposit close to the orifice of the gun. Using a knife or other sharp tool to scrape away such deposits may damage the orifice, therefore it is best to use some suitable solvent to soften the coating so it can be easily removed with a rag or short bristle brush.

Another safe method is to use a birch or maple skewer pin or pointed dowel. Twist a bit of cotton tightly around the pointed end of the skewer and dip it into solvent. This is safe to use around the orifice of the spray gun, provided reasonable care is taken in handling it.—J. HYLER.

**Bull Dog Quality Lacquer Sticks**

The perfect Lacquer Burning-in Cement. Will not raise or soften and is not affected by any type of lacquer.

LARGEST LINE OF COLORS

Write for Color Card, showing both Lacquer and Shellac Stick Colors and for the name of nearest distributor.

UNIVERSAL SHELLAC STICK CO., Inc.
28 Howard Street New York, N. Y.

### New Pigment for Flat Paints

A new pigment for flat paints is announced by Krebs Pigment & Color Corp., Wilmington, Dela. The pigment, known as "Ti-Cal TC," produces flat paints of high opacity and a low sheen. It is a high oil absorption, thick consistency pigment of the type needed for full-bodied, highly opaque flat paints . . . . responds moderately to the addition of water, giving fullness and easy working under the brush without excessive bodying, and produces extra hiding power in flat paint films.

### Joseph F. Glidden Dies

Mr. Joseph Francis Glidden, President of The Varnish Products Co., Cleveland, Ohio, died on Saturday, Dec. 3, 1938, at Cleveland.

## Classified Advertising

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**Save 30% to 60%**

We recently acquired, through a single purchase, a large quantity of DeVilbiss spray booths. These booths were sold at auction and we made a flat bid on the entire plant, including all spray equipment, booths, exhaust fans, pressure tanks, etc. WE BOUGHT THIS EQUIPMENT RIGHT . . . AND WE CAN SELL IT RIGHT.

Being authorized dealers for Curtis compressors, we are in position to offer a liberal trade allowance on your old compressors and our activities in this connection enable us to supply any size rebuilt, fully guaranteed compressor.

We can also rebuild and recondition any of your present spray equipment or compressors.

**M. & E. MANUFACTURING CO.**
**720 S. Meridian St., Indianapolis, Ind.**
**Est. 1913**

Distributors of Binks entire line.


## Fire Extinguishers Worked

Fire extinguishers and other first aid fire appliances put out 75 to 90% of all fires, the National Fire Protection Association announced recently. N. F. P. A. regulations are accepted as standard by fire insurance underwriters and fire departments in the U. S., and contain full descriptive information about the eight different types of fire extinguishers approved by the Underwriters' Laboratories. They tell in detail how each of these important protective devices operate, how many are needed in given situations, and the way to maintain them in proper working order. Industrial executives can obtain copies by applying to their fire insurance agents or companies.

## Paasche Air Painting Equipment Catalog

A new catalog of 48 pages 8½x11-in., bound between heavy paper covers, illustrates and describes several modern items in the line of finishing room and paint shop equipment—spray guns, material containers, turntables, exhaust fans, spray booths, separators, gauges, hose, compressors, automatic spray painting machines, rubbing machines, respirators, striping tools and others. Illustrations and type matter are attractively presented and the contents are alphabetically indexed. The book is published and distributed by Paasche Airbrush Co., 1909 Diversey Parkway, Chicago, Ill. Copies will be sent free and without obligation to concerns interested.

## Metal Cleaning Hints

A 4-page folder (8½x11-in.) containing practical information and suggestions about cleaning metal preparatory to finishing, has been published by the Neilson Chemical Co., 6564 Benson St., Detroit, Mich. Copies may be obtained by writing the manufacturer.


**FOR SALE.**

**SULLIVAN AIR COMPRESSOR with 75 h.p. motor; 220-440 volt; slip ring; 350 cu.ft. per minute; now running and in A-1 condition. Write now for particulars.**

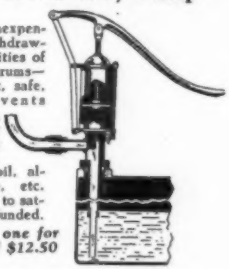
**M. & E. MANUFACTURING CO.**
**720 S. Meridian St., Indianapolis, Ind.**

## Emergency "Fire" Blanket to Smother Burning Clothes

A fireproof blanket, so mounted that it can be wrapped tightly around one's body in a few seconds without assistance, is being marketed by the Davis Emergency Equipment Co., New York, in response to an increasing demand for this type of protection for laboratory and industrial workers.

Normally, the Davis Fire Blanket is wound on a vertical roller, which is mounted on a wall or post. Should a worker's clothes catch fire, or should it be necessary for him to dash through flames to reach safety, he thrusts an arm through a catch-rope attached to the exposed edge of the blanket and, turning rapidly, wraps the blanket closely around him, extinguishing flames in clothing or protecting himself from burns.


## *No more drum tilting* .... Use the Air-Way Pump



HERE'S an inexpensive unit for withdrawing various quantities of material from drums—it's convenient, safe, speedy and prevents dripping losses. Used extensively for dispensing varnish, stains, shellac, linseed oil, alcohol, turpentine, etc. Fully guaranteed to satisfy or money refunded.

*Will you try one for the low price of $12.50 f.o.b. Chicago?*

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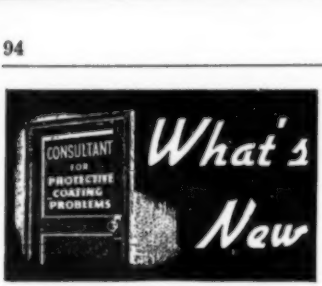


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Experimental samples were tested for moisture resistance by coating square wood blocks and subjecting them to high humidity for long time intervals. Weight readings indicated the moisture resistance of the various films.

The coatings were then tested for their dielectric strength and power factor loss. Thus by the slow process of elimination the formula was perfected. It is absolutely satisfactory and large quantities of this coating are now being used.

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Manufacturers of armatures, coils, motors, conductors and other electrical apparatus interested in this problem, or in the solution of a specific problem of their own, are invited to write, furnishing all details, to—INDUSTRIAL RESEARCH, DIVISION OF WIPE-ON CORPORATION, 105 HUDSON STREET, NEW YORK. A complimentary copy of "Case Histories" will be sent covering this problem and others, such as: non-discoloring white metal finishes; burnproof enamels; two-tone finishes; eyelet coatings; 10 minute air dry metal finishes; magnesium alloy finishes; airplane finishes and seam compound; and coatings to resist alkali, alcohol and acids, together with a solution of your individual problem. —Adv.

*(Continued from page 93)*

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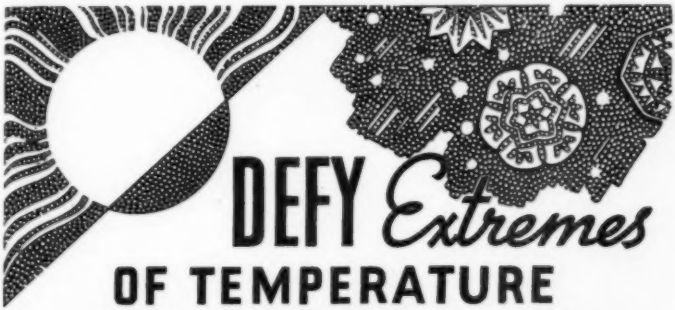

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After a finished object leaves your plant, are you sure that the appearance will remain in good condition for a reasonable length of time? Remember that Summer heat, Winter cold and extremes of humidity must be taken into consideration.

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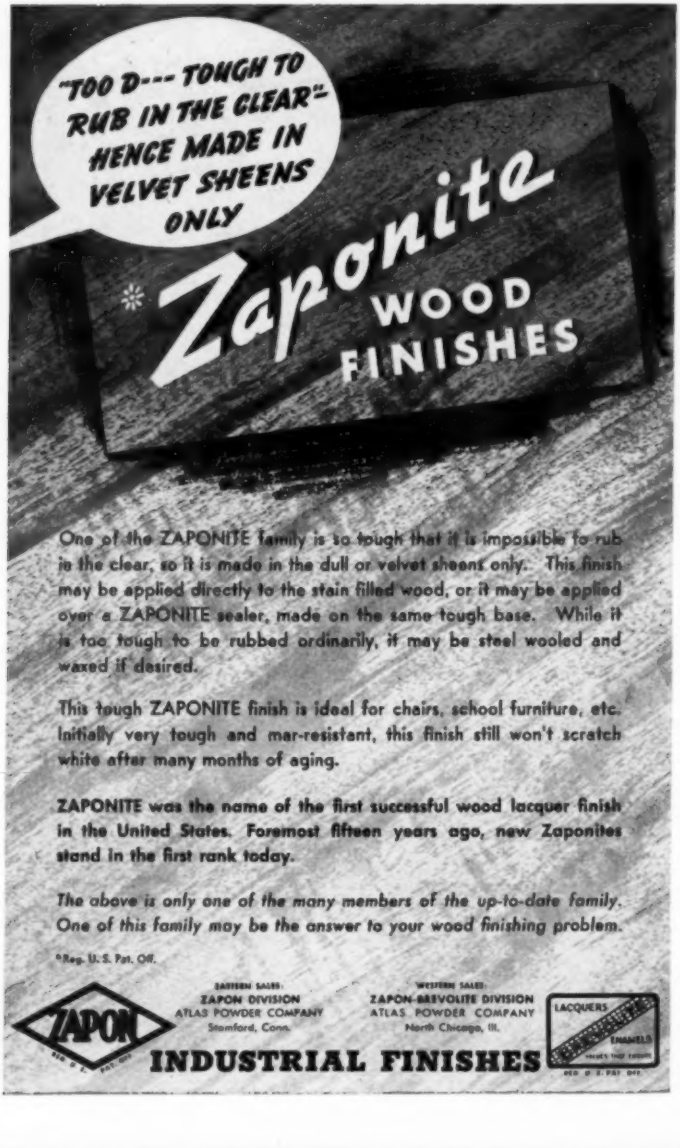
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